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EDITORIAL NOTES

THIS REALLY HAPPENED.

As you know, it is customary for detail men when they visit your office to ask for one of your cards. This they send to the home office as confirmatory evidence of the fact that they have called upon you. A certain detail man called upon a certain surgeon in a certain city, and as per custom, departed with one of the surgeon's cards. It was inscribed "John Doe, M.D., F.A.C.S." The detail man then called upon another physician with whom he was well acquainted, and in the course of conversation said he had "met up with a new one." Thereupon he brought out the card of John Doe and, pointing to the mystic letters, "F.A.C.S." said: "Is Dr. John Doe a Christian Scientist?" There are occasional bright spots in a world otherwise filled with gloom and conflict!

ON CRITICISM.

Some thoughts on criticism in general have been suggested by the fact that a number of people in Sacramento have more or less heatedly taken the editor to task for an editorial note which appeared in the JOURNAL, criticizing the policy of a city in turning out a full-time health officer, and presumably a well-trained one, as he was, we understand, picked in competitive examination. The point is that the editor was attacked for publishing certain criticism; there was no discussion of the *thing criticized*! If one is to be personally attacked for uttering words of criticism, it would seem logical to show first that the *thing criticized* is essentially right and that hence the critical words were improperly used. If a criticism is *just*, it is no argument against it to berate the critic. If it can

be shown that it is *not* just, then the critic should most certainly be taken to task for his improper and unwarranted use of critical words. It may be conceded that no one likes to be criticized and that when anything *is* criticized, someone is sure to be offended thereby, either rightly or wrongly. If no one and nothing was ever criticized; if errors and mistakes and misdemeanors were never pointed out, what a chaotic world we would live in, and how impossible life would become! One offended person who offered no single argument against the justice of the attitude of the critic, said that it was not the matter but the language that was objectionable. How can anything be criticized in language that is unobjectionable? And furthermore, if a thing is to be justly criticized, should not the language be as clear, as direct, as forcible as is possible, in order that the thought may be carried home and easily assimilated by the reader? It would seem so. This JOURNAL, since its very first issue, has criticized many things and has stirred up many rows. But it has not been entirely destructive; it has been constructive as well, and in nearly every instance where such criticism has been made, some constructive suggestion has been offered. The constructive side of the criticism in the case of the Sacramento incident, was in supporting the sound sociological principle that the health of a community is best secured by having a full-time, well-trained health officer; one who has no divided duty and does not serve two masters. What "the college" will become, no one knows; but there was a constructive side to the criticism of "the college" when it was formed. The argument on that was, that the good desired could be more surely secured by working through existing and permanent educational channels; that a personal and proprietary educational enterprise is an anachronism; that it is against the trend of educational development. Time alone will show the right or the wrong of this particular thing. To attack the editor does not alter the right or the wrong of the thing mentioned. It is often discouraging to have personalities injected into a discussion of things or conditions as such. And it certainly is much easier to go through life openly admitting that all things are possible and that everybody is right!

FRAUDS IN MEDICINE; LEARN ABOUT THEM.

The price list of the various books and pamphlets relating to frauds and fakes in medicine, quacks, quackery, fake cures, fake springs and the like is issued by the American Medical Association and may be had for the asking. Send for a copy and note the range of subjects which the Propaganda Department of the Association has covered in these publications. Most of them cost but a few cents and are really sold at approximately the cost of publication. Quite frequently we are asked about this or that fraud or fake undertaking or the like; practically all of them have been written up by the Association and can be had in pamphlet form. Send for this price list, which is really a catalog of the various fakes and frauds exposed.

ON ACCOUNTS.

On another page will be found the reports of the two firms of certified public accountants which audited the accounts and affairs of the Society for the last year—1914. Ordinarily, but one firm does the work, but this year it was thought well to have one check up the other and thus make assurance doubly sure. As all of our 2,500 members cannot visit the home office of their Society and see what is going on, it seems a good time and place to explain a little as to the nature of the work and the way the accounts and the affairs are handled. In 1905, the Secretary put in a very simple system of accounts which the then auditor said was the best that could be devised for our business; it had to be simple, for the Secretary had to keep the books and—he is no professional bookkeeper! At the same time, the Secretary introduced, and the House of Delegates passed, resolutions requiring the Secretary to furnish a bond in the sum of \$2,000 and that the accounts should be audited by a certified public accountant. These things he did for his personal insurance, as it were, for anyone who handles money is always open to the charge of questionable handling thereof. All of these accounts, bank statements, canceled checks, vouchers and auditors' reports are saved and on file in the safe deposit vaults.

All money that comes in in any amount of \$1 or more, is acknowledged by letter and a carbon copy filed. This requires the checking or it by at least two other persons beside the Secretary and also would make it possible to audit the accounts, within \$10 or less for the year, from the letter files. Every cent that goes out is paid by check and before the check is signed, the voucher to which it is attached must be looked over and signed by two members of the Council forming the auditing committee of the Council. The Secretary has a petty cash fund of \$200 to pay small bills that may be urgent, or cash payments such as express, stamps, and the like. But each month all of these items are entered upon a voucher, presented to the auditing committee and signed, before the check covering them is issued. All bills are paid from month to month by entering them upon the voucher and making the attached check to correspond; thus the auditing committee, has before it the actual bills. When there are no bills, as in payments for salaries, rent and the like, the purpose for which the check is to be drawn is written in the voucher. This plan obviates the necessity of keeping many accounts; it turns everything into a cash-book account system. It frequently happens that there are some bills unpaid at the end of the year, and these are the only liabilities against the Society and are taken up in the early part of the next year. Our assets at the end of a year are the cash on hand, such fixtures and supplies as may be on hand, and our accounts due from advertisers. The last is an uncertain amount, for some accounts due may never be paid and some which one might

consider good, and as assets, are never paid; whereas some that seem hopelessly bad, may be paid in full, in time. On the whole, the years have shown that following a liberal policy with advertisers, has resulted in a constantly growing business and a very small loss from unpaid accounts. Last year, less than \$200 was charged off as hopelessly bad. The object has been, in planning and conducting this matter of accounting, to make everything as simple as possible and so clear and plain that anyone could step in and in a few hours, understand it all and see for himself exactly what the condition of the Society's affairs really is at that time. As no names of members are enrolled unless the money is sent in with the name, the county societies never owe us anything and so there is no need to keep a double entry account with each society; it is all cash. If the cash comes with the name of one elected, he is enrolled as a member; if it does not, he is not so enrolled; nothing is ever owed to us for membership assessment; it is cash received and so entered. Our heaviest expense is for legal services in defending the constantly increasing number of suits against physicians for damages for alleged malpractice. We have already paid out nearly \$9,000 this year and it will run well over ten before the end of 1915. The business is constantly growing in magnitude and in importance and requires more time and thought and work than you would suppose. But the effort is to keep the machinery simple and effective.

ROCKEFELLER FOUNDATION AND
HOOKWORM.

The Rockefeller Foundation has recently issued an annual report, largely dealing with its International Health Commission, and purposes hereafter to issue such reports each year. The work of this one branch of the Foundation is stupendous, as may be judged by a fragment taken from the announcement sent to the JOURNAL:

The resolution creating the Commission assigned to it two tasks: (1) "to extend to other countries the work of eradicating hookworm disease as opportunity should offer"; and (2) "so far as practicable to follow up the treatment and cure of this disease with the establishment of agencies for the promotion of public sanitation and the spread of the knowledge of scientific medicine." In keeping with this definition of purpose the Commission has directed its initial efforts to the first and more immediate task of extending to foreign countries work for the relief and control of *uncinariasis* or hookworm disease.

The relief and control of this one disease is an undertaking of enormous magnitude. The infection belts the globe in a zone about 66° wide, extending roughly from parallel 36° north to parallel 30° south. Practically all countries within this zone are infected. Of the 1,600,000,000 people inhabiting the globe, about 900,000,000 live in countries where the infection is prevalent.

TEST YOUR WASSERMANN!

There is a story about a man, upon whom a certain rude community had imposed the duty of dispensing justice; he declared his intention of hearing only one side of the case; "for," said he, "to hear two sides would have a tendency to confuse the court."

Such an evasion of the problem resulting from a conflict of testimony is not always feasible in the practice of medicine; and we can not help wondering how widespread is the trouble of mind which the practitioner suffers from the contradictory reports issued by workers who make the Wassermann tests. To stick to a single serologist would secure the mental repose which the backwoods justice was so anxious to preserve; but we fear that a regular assumption of one's Wassermann worker's infallibility would not be compatible with one's duty.

Not that there are no laboratories which profess their finding of a "positive Wassermann" to be an unerring indication of syphilis. From large and influential institutions has come the declaration that no divergence has been found between their findings and the clinical facts in a numerous and varied series of cases. Yet, while the very great value of the test is universally admitted caution was early recommended in view of the proportion (however small) of non-specific reactions and especially on account of the discrepancies which were observed in the results of different workers.

To these contradictory results we called attention in these columns early in the era inaugurated by Wassermann's discovery, and also to Wassermann's disavowal of responsibility for the results of any departure from his method. But disagreements in the findings are still published, and more frequently no doubt the vexed and puzzled practitioner refrains from printing his complaint but confides his grievance to the ears of his sympathizing fellows.

It is an extreme case when a laboratory is divided against itself; but it is related that in one instance the blood of one and the same person was divided into two portions and the two, labeled with different names, sent to the same laboratory, whence issued a report to the effect that one-half of the blood was "negative" and the other "positive."

Of course, one explanation may be that two different antigens were employed in such a case. This, or some other, difference in technic is the cause of the different results supplied by different serologists on the fluid of the same patient. We do not find that the error (and one of the di-

vergent results must be erroneous) is due to inattention or carelessness, but to some defect inherent in the method employed. For when a repetition of the test is demanded each disputant adheres to his previous result, whether the same or a new portion of fluid be used, whether the interval between the original reaction and its repetition be short or a matter of months.

One lesson to be learned from this, if the lesson needed learning, is that the physician must not abdicate too readily in favor of the laboratory worker, but must keep his clinical head. Furthermore, a laboratory method convenient for the use of the practitioner himself, to serve as a check upon the serologist, is very much desiderated. Such an one seems now to be supplied in the Herrman-Perutz test.

This is a precipitation test. It was mentioned from time to time in various journals and its usefulness commended. It was tried here, but difficulties were encountered, which were apparently in large measure due to the very inadequate description of the details supplied by the authors; for, while the details are comparatively simple they are minute and fundamentally important.

In an article in the *Berliner Klinische Wochenschrift* of August 23, 1915, Zadek confirms the statements of others as to the value of the Herrman-Perutz test. He has tried it in 1000 cases along with the Wassermann method. A positive reaction is obtained in primary lesions before the Wassermann will give it, and it is to this fact chiefly that is due the great preponderance of Herrman-Perutz "positives" over the Wassermann (72.7% of the former to 51.2% of the latter) in a material comprising syphilitic affections of all stages. The control examinations, however, yielded a result in favor of the Wassermann method by 5 to 6%, non-specific reactions having been found most frequently in advanced tuberculosis of the lungs, carcinoma, typhoid, sepsis and especially in uremia and eclampsia. Nevertheless Zadek believes that the Herrman-Perutz test should be as extensively used as the method of deviation of the complement, not to displace the Wassermann test but to be valued as a complete equivalent. Neither is considered absolutely specific, but the "clinical specificity" has been proved to be sufficient for practical purposes. The advantages of the precipitate method consist in the simpler conditions for performing the test, in the earlier revelation of syphilis and in greater resistance to the influence of treatment.

Zadek sets forth minutely all the details of the procedure, with precautions as to the sources of error. Many may now be induced to try the Herrman-Perutz method who were repelled by the complexity of the Wassermann; those who have been using the Wassermann method, the original or one of its modifications, would seem to be under an obligation to corroborate or refute the assertions in favor of the other. Let us hope that a sufficient approach to unanimity will be achieved in these investigations so that there will result nothing like a "tendency to confuse the court."

RIGHTS AND DUTIES UNDER HEALTH LAWS.

The following extracts are taken from the Monthly Bulletin of the Los Angeles Health Department for August 1915. It would not be a bad idea if every physician had some of these suggestions printed on slips and placed on the waiting-room table; it would help disseminate the simple knowledge and get the people to understand what all public health rules are—measures for their own good:

The health laws of your city have been made to protect you from disease and from early death. They are to make you live long. They are the result of long experience. They are to protect you and your family.

The city officials are your representatives. When they direct you to do certain things and not to do certain other things, it means that you and the people who live next door and the people who live on the next street, have made certain rules and regulations through them. Your representatives have made these in order to protect you; they have made them because such rules are necessary. Naturally you will want to live up to them.

If Health Laws are really to make more healthful conditions, you should do your share. You should do what the law says. You should urge your friends to do so as well.

CONTAGIOUS DISEASES.

Contagious diseases are diseases that are "catching." They may spread quickly from the person who is sick to other people. Then these people also get sick from the disease. You should send to the Health Department the names and addresses of all persons either in your own family or in any other who may have any of the following illnesses:

Diphtheria (croup), Tuberculosis, Chicken-pox, Rubella (German Measles), Epidemic Cerebro-spinal Meningitis, Scarlet Fever, Infantile Paralysis, Smallpox, Measles, Typhoid Fever, Mumps, Whooping-cough.

If you do this the Department of Health may be able to prevent the disease from spreading to other people.

SIGNS—In a few of the common "catching" diseases the Department of Health puts a warning sign on the front door of the home in which the disease occurs. This is a sign that says there is a contagious disease in the house. It may seem unpleasant to have a sign on the front door, but this is only to protect you. If your neighbor does not have such a sign on his door when there is a contagious disease in his home you may not know that the disease is there, and you will not be able to keep your children from playing with those who have it. It is very dangerous to allow children to play with those who have a contagious disease.

SANITATION POSSIBILITIES.

It seems well nigh impossible to make the people see what can be done in saving their health and their lives by proper sanitary measures, even in the face of such tremendous examples as Cuba, the Canal Zone, and districts where large government undertakings are in progress. To change, in a few months, the pest-hole of the world—the Isthmus of Panama—into one of the healthiest places on the globe, one would think would be of sufficient importance to make everybody in every community sit up and take sufficient notice to demand the like conditions in his own "home town." But not so. The Canal Zone health history has been repeatedly written up and many articles on it published in all kinds of public press. Similar examples of what can be done in conserving life and health as against preventable disease are to be found in many places, for the looking. In Idaho, near Boise, for more than four years, something like 20,000 men were employed in building the great Arrowrock dam, whose completion was celebrated October 4th. There was not a single death from any contagious disease, during all this time, and but one case of typhoid, which probably originated outside of the camp. Intelligent sanitary rules and regulations were made and rigidly enforced and the work progressed without a hitch and without disease. Incidentally it may be said that the project, which it had been estimated would cost about \$7,500,000, was actually completed at a cost of about \$5,000,000. So much for what can be done under proper sanitary control; but the citizens of our communities prefer dirty diseases to cleanliness and health. And they don't understand how many actual dollars the healthful conditions save for them!

IMPROVING CONDITIONS.

Dr. G. C. Simmons, Health Officer of Sacramento, has kindly sent to the JOURNAL copies of the monthly report of the Health Department of that city for August 1914 and August 1915. It is not possible to use the percentages for exact comparison, for the reason that the 1914 report bases its calculations on a population of 62,000 whereas the 1915 report uses for computation a population of 75,000; it does not seem possible that the city grew in population to the extent of 13,000 in one year. However, certain figures are illuminating. In August 1913, the deaths per thousand were 18.01; in 1914, 13.74; in 1915, 12.70, showing a steady decrease. It is also to be noted that the number of actual cases and of deaths from typhoid has continued to decrease. Sacramento and the Sacramento Valley, have been rather notorious for typhoid for some years, but if the remedial public health measures which were adopted some time ago are continued, we may hope to see this entirely changed. It would be wise for the authorities of Sacramento and vicinity to urge the use of anti-typhoid inoculations, through educational effort. This would materially aid them if they can secure public co-operation.

ANOTHER "CURE FOR CANCER."

A correspondent has written to the JOURNAL asking about the new "cure for cancer" so splendidly written up by "Henry Smith Williams, M.D.," in a monthly magazine. As a reflection upon the way some of the statements were gathered and what they are really worth, we append a letter from Dr. J. W. Vaughan to the Journal A. M. A.:

To the Editor:—The following statement of facts in *The Journal* is imperative because of the unwarranted use of my name in the exploitation in a popular lay periodical of a preparation for the treatment of inoperable cancer.

Some nine weeks ago I was informed by Dr. S. P. Beebe of New York City that he had a preparation to which the name of "Autolysin" had been given which in his opinion was of benefit in the treatment of inoperable malignancy. He stated that it was his desire to have men who have made a special study of clinical cancer work with the material, so that he might more quickly and more definitely arrive at conclusions concerning its ultimate value.

Believing that anything that offers aid to the sufferer from inoperable cancer should be given a fair trial, if it originates from a competent authority, I was glad to co-operate in testing out the merits of this preparation and, after starting its use, wrote to Dr. J. Wallace Beveridge, an associate of Dr. Beebe's, a letter in which I described the class of cases in which I had begun their treatment. This letter was a personal communication from one physician to another and at the end of the description of each case a few comments were made concerning any change in the patient's condition either observed or thought to have been observed.

Entirely unknown to me, this article was quoted in the article in the magazine above referred to, and was so abstracted as to make it appear to be a testimonial. Inasmuch as my letter was written within one week after beginning trial of "Autolysin" and only to show the class of cases in which it was being employed, its use in this manner was deliberately misleading.

Again, inasmuch as my letter was a personal one from myself to Dr. Beveridge, its use must have occurred with the knowledge of someone of their office force.

Because of the unjustifiable use of my name in connection with this unwarranted and unethical exploitation, I will deem it a great favor if you will give space to the above.

J. WALTER VAUGHAN, M.D., Detroit.

PLAGUE HISTORY.

Since publishing the brief note in regard to the position of the State Society and its direct influence in starting the campaign against plague in San Francisco, some years ago, our attention has been called to an omission by the author of the article mentioned. The *Occidental Medical Times*, edited by Dr. James H. Parkinson, Sacramento, was then alive—and very much alive, for Dr. Parkinson, as editor of that publication and as a member of the Council of the State Society, was extremely active in urging public support of the work and publicity of the facts in the daily press. It may not be clearly remembered after the passage of these years, just who was most active or most responsible for what happened, but it is certain that no two persons were more thoroughly roused or more active in their attacks upon the lethargic conditions of the time, than were the President of the Society, Dr. Evans, and Dr. Parkinson, of Sacramento.

LESSONS FOR LAYMEN.

Not the least valuable part of the work of the American Medical Association is that which deals with the effort to educate the public on public health matters. This work takes several directions, public lectures for which series of lantern slides are prepared, placards, a newspaper service and series of pamphlets on a number of subjects. One of the latest is on Scarlet Fever, by Ludvig Hektoen, M.D., written expressly for the lay reader and very clearly and concisely in ordinary language, giving a valuable account of this disease with much information which it would be well for all people to know. This little pamphlet, as well as others in the series, may be had by application to the State Board of Health, or to the American Medical Association, 535 North Dearborn street, Chicago.

EXTRACT OF LIVER, A FUTURIST REMEDY.

To be a success, a proprietary must contain something new, or at least something regarding the therapeutic value of which the physician is ignorant. A remedy which fulfills this requirement is Filudine, a proprietary which has recently been investigated by the Council on Pharmacy and Chemistry (see "Items of Interest," this issue). Filudine contains as its chief ingredient extract of liver along with extract of spleen and pancreas and thiarfeine which used to be "thiomethyl arsiniate" but now, according to the manufacturer, is "thio-cinnamate of caffein." The vast possibilities of extract of liver are appreciated when we learn that it contains "iron (the ferruginous function of the liver) phosphorized azatous bodies, lecithin, jecorin, glycogen, fats and ferments, such as proteolytic ferments, and the ferments of nucleic substances (nucleases, adenases, xantinoxydases, glyoxylases, and an uricolytic ferment; the ferments of ethers and fats, of hydrates, carbon, catalases and oxydases." We wonder if a cat's fondness for liver has any relation to its proverbial "seven lives."

NO DOCTORS NEEDED—USE "AKOZ"!

A correspondent has sent us a circular relating to "Akoz" with a letter from a patient saying that now he no longer needs the services of his physician—or any other physician—now or at any future time. "Akoz" is a grayish colored, very hard rock. It is sold powdered very fine. It contains no chemicals save such as are ordinarily found in rock of its class, and traces of certain metals. It is very slightly soluble and has a very mild alkaline reaction. It has been repeatedly tested for radio-activity, but is absolutely devoid of it. Yet this is what the circular says it will cure: All stomach troubles; bowel, liver and bladder troubles; rheumatism, gout, lumbago, sciatica, neuralgia and neuritis; Bright's disease; diabetes; pyorrhea and toothache; catarrh of the nose and throat and of the bladder; all skin diseases ("The most common skin diseases are eczema, pimples, scalp rashes, barber's itch, ringworm and bites and stings of insects"); poison oak and sunburn; hemorrhoids, pruritis, ulcers and inflammation of the rectum; enlarged prostate; burns, sprains and bruises; tonsillitis; chilblains; and it is good as a "tonic"! What more do you want? Just get a chunk of rock and you can cure anything! Surely the world is well bespattered with fools!

SCARLATINA:

A Résumé of Present-Day Knowledge.

By W. W. BEHLOW, M.D.

Scarlet fever is an acute infection of variable intensity. It may be so serious as to endanger the life of the patient, and again the symptoms may be so mild that the presence of the disease may not be recognized. While severe and mild cases do occur simultaneously in the same family, yet it is one of the characteristics of the disease that the virulence of the infective agent varies in different epidemics.

The disease may be found in any large city at any time of the year, although it occurs most frequently in the winter and spring and it is at such seasons when the epidemics exist. The personal contact of the susceptible individuals which is naturally more frequent in the wet and cold months probably accounts in large measure for the prevalence of the disease at such a season.

There appears to be a natural immunity to the disease in many people and this is especially true for adults, who not having had the disease in childhood may apparently expose themselves with less danger of infection than would be the case in children. Young infants are more immune than are children of greater years. The mortality rate is very high between six months and five years. The following figures by Barasch¹ give the mortality according to age: 50.7% under the 5th year; 31.4% between 5 and 9 years; 9.9% between 10 and 14 years; and 2% between 11 and 19 years. One attack usually confers immunity but it should be borne in mind that second attacks may occur.

Etiology. The causal agent of scarlet fever is not known. Through the almost constant as-

sociation of the streptococcus, it has been suggested that some form of this organism was the cause of the infection. This, however, has never been proven. Infection occurs through contact with the secretions from a patient and therefore it is during the early stage of the disease that scarlatina is most frequently transmitted. A discharging sinus or a chronic suppurating otitis media can also transmit the infection. The scales from the desquamating skin do not carry the infection unless the dried secretion of the naso-pharynx or of a discharging sinus has contaminated the skin. The incubation period is from two to seven days, oftenest two to four.

Symptoms. The onset is usually sudden with fever and a chill in older patients, or vomiting or convulsions in young children. The throat is sore and examination will reveal an intense angina of bright red color, of the entire faucial ring. On the soft palate and extending to the hard palate there is seen a punctate eruption, the forerunner of what is to appear on the skin a little later. In an atypical case the throat signs may be very mild and almost absent. At the end of the first day or on the second day, there appears on the upper chest and in the axillae, a fine punctate erythema. The intervening skin may present a fine blush or it may be normal in color. The rash increases in the extent of its distribution until it covers the entire trunk and extends upward toward the head and down the thighs. Immediately about the mouth there is usually an area of pallor. The rash is more accentuated in the axillae, groin and along the flanks. There are frequently on the trunk minute vesicles filled with clear or slightly turbid fluid. At the height of the eruption the skin is hyperemic, the color disappearing upon pressure and returning instantly after the pressure is removed. Certain signs are worthy of note. Pastia's lines are lines of brownish pigmentation in the folds of the antecubital fossa and popliteal space. The Rumpel-Leede's phenomenon first described by Rumpel in 1909 and later by Leede² in 1911, is suggestive. It is almost always present in the disease and although it also occurs in other conditions, its absence may aid in ruling out scarlet fever. An Esmarch bandage is placed around the upper arm just above the elbow, thus causing a passive hyperemia. After several minutes the band is removed, and close examination of the skin of the antecubital fossa will reveal fine punctate hemorrhages in the skin, if the test is positive. During the first day the tongue is heavily coated but gradually the swollen reddened papillae appear through this coat. Some observers call this the strawberry tongue. Others, however, prefer to call the later condition when the tongue is red and the papillae stand up prominently, the so-called strawberry tongue. This latter condition is also known as the raspberry tongue. The glands throughout the body are enlarged, especially those of the anterior cervical region. During the height of the eruption there may be considerable pruritis.

Blood. A polymorphonuclear leukocytosis is present early in the disease, increasing during the

stage of eruption and declining with the fading of the rash. The eosinophiles are diminished while the rash is at its height. The fact that the leukocytes return to normal after the disappearance of the rash is very important, as a subsequent increase in cells points to a complication. In 1911, Doehle³ reported finding certain bodies in the leukocytes of scarlet fever patients. These inclusion bodies have since been reported by numerous observers who agree that these bodies are found in the majority of scarlet fever cases and not in the other exanthemata.

Course of the Disease. The temperature continues high during the efflorescent stage and as the rash fades the temperature comes down by lysis. There may be slight delirium during this stage. About one week after the first appearance of the efflorescence, the desquamation begins. This desquamation is of the lamellar type. It is most characteristic at the tips of the toes and fingers where a decided break in the skin is noticed under the nails. Desquamation may last from one to three weeks.

The urine may show a small amount of albumen and a few casts during the height of the fever. It should return to normal with the beginning of convalescence. It is frequently decreased during the prodromal and efflorescent stages and increased during desquamation. If there are no complications, the further progress is uneventful.

Complications. These usually occur before the fourth week but may appear considerably later. Nephritis may exist from the start but usually appears between the second and fourth weeks. The signs are those of a typical acute infectious nephritis. Otitis media may occur very early or very late in the disease. Suppuration of the glands of the neck occurs occasionally. Septic joints are not very common and are more frequent in youths and adolescents according to Barasch.⁴ Endocarditis is not especially common and is usually mild. There is always a slight grade of myocarditis in scarlet fever and this condition may almost be called a part of the picture. Septicemia is a very grave complication resulting, in the majority of cases, in fatal termination of the disease. Broncho-pneumonia is not uncommon.

Treatment. Rest in bed, milk diet, warm baths, and careful nursing are the principles of treatment. The patient should remain in bed at least three weeks and in the complicated cases for a longer period. The diet may be figured on a definite caloric basis as is now done in the Boston City Hospital. In bathing, care must be exercised that the patient be not exposed to cold. Even having the patient near an open window may cause the development of nephritis. If kidney trouble does occur, it is treated according to the usual methods of therapy in such conditions. Uremia is combatted by hot packs, catharsis and venesection. Otitis media is treated as is usual in such cases. A thorough incision of the drum in the purulent inflammations of the middle ear, will

frequently cause the rapid subsidence of the symptoms.

The use of streptococcus vaccines both for immunization and for therapy, has not proven to be of advantage. Serum from convalescents as suggested by Barker⁵ of St. Louis, and by Axenow⁶ may prove of advantage in the future. The dangers of such therapy may readily be appreciated.

In the ordinary case the throat and mouth should be carefully cleansed daily. In the severe septic cases this is a very important feature of the treatment. Mild antiseptic sprays and lavage of the throat with saline solution must be done several times a day in the very severe cases. The swollen glands of the neck are best treated by ice collar. When pus is evident, free incision is indicated. The pruritis during the height of the rash may be relieved by rubbing with cocoa butter.

Conclusions. Scarlatina is most frequent in childhood. It is very fatal in young children. It is transmitted by the secretions and not by the scales of skin, unless these are contaminated by secretions. Vaccines have not proven to be of value in prophylaxis or treatment, except in those sequelae of septic origin, where chronic conditions may be affected by vaccine as in any other condition of similar nature occurring independently of scarlet fever.

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ORIGINAL ARTICLES

THE MODERN DIAGNOSIS OF HEMATURIA.*

By MARTIN KROTOSZYNER, M.D., San Francisco.

Goethe in his immortal *Faust* terms blood a juice of extraordinary character, and bleeding from any source or organ is generally considered an awe-inspiring event among laymen; physicians, too, look upon hemorrhage, even in small or only microscopically recognizable quantities, as a serious, and if continuous, as an ominous symptom, from the early recognition and correct interpretation of which the health and comfort and, not rarely, the life of the patient may depend.

The successful perusal of the huge and, at first glance, unwieldy subject, as presented in the title of this paper, is, in the brief space of time at my disposal, only feasible through careful classification of its different phases. We will, therefore, endeavor to answer three fundamental questions as regards the occurrence of hematuria: How and by what means is the presence of blood in urine determined? Where is the bleeding focus localized? What is the etiology and underlying pathological process of hematuria?

Let us consider, at the outset, the most important question pertaining to the diagnosis of hematuria: How and by what means is the presence of blood in urine determined?

Larger amounts of blood are, of course, easily recognized by mere ocular inspection. In this connection a few practical observations may not be amiss. The color index of blood being very strong, a small amount of it suffices to give the urine a bright red discoloration. The conclusion, therefore, is obvious, that in the greatest majority of cases red-colored liquid urine merely consists of urine and one can safely say that the amount of blood dissolved in urine is, as a rule, overestimated and that this type of hematuria assumes dangerous aspects only in case it is continuous during a long period. The really grave form of hematuria, on the other hand, as characterized by blood in macroscopically clear urine is not sufficiently appreciated and often overlooked by the general practitioner. I would, therefore, urge upon a careful microscopic examination of the urine of every patient, in whom the remotest suspicion of an affection of the urinary tract exists. In the centrifugalized sediment will, thus, readily be demonstrable either fresh or crenated blood cells or the sharp-rimmed rings known as blood-shades, or colorless minute microcytes.

If microscope and centrifuge are not available and, especially at the bed-side, the presence of blood can be ascertained on the basis of the simple chemical Heller's blood-test by adding an alkaline solution to urine in a test tube and heating, by which, in the presence of even a very small amount of blood, a brownish-red precipitate is obtained, while its color in the absence of blood, is grayish-white. The positive result of this test should,

though, be afterwards controlled by microscopic evidence.

The localization of the bleeding focus, formerly a matter of mere speculation and a problem of the utmost difficulty, particularly as regards bleeding from the upper urinary tract, is to-day easily feasible by means of our precise modern methods of examination.

The source of bleeding may be located in the urethra, the prostate, the spermatic cord and vesicle, the bladder, the ureter, the renal pelvis and finally in one or both kidneys.

A hemorrhage from the anterior part of the urethra can be recognized by oozing of blood from the external meatus, while blood originating from a focus in the posterior urethra, owing to the tight muscular valve provided by the cut-off muscle, will flow back to the bladder. The differentiation, therefore, of a hemorrhage of the posterior urethra from that of the bladder is, if abundant, often impossible. In case though, only scant bleeding occurs, and if the focus is located at the extreme end of the posterior urethra, at or near the bladder entrance, then the diagnosis may be feasible on the basis of the two-glass method, the urine in the first glass being clear, while that of the second glass will present a sanguinolent and cloudy appearance. Of particular diagnostic import, in connection with hemorrhage from the posterior urethra, is the appearance of a few drops of pure blood at the end of micturition, the so-called terminal hematuria, which is always indicative of a bleeding focus at or near the bladder entrance.

For the determination of bleeding from a focus beyond the urethra, and especially from the upper urinary tract, the introduction of the cystoscope is indispensable. Through cystoscopy we are now enabled to ascertain, by ocular inspection, whether the source of hemorrhage is located somewhere in the interior of the bladder or in the prostate, and whether blood is eliminated from the right or left ureter. In the presence of negative cystoscopic findings as regards a focus in bladder or prostate we may safely exclude these organs from our diagnostic calculations.

Ureteral matoscopy alone suffices in cases of severe hemorrhage from the upper urinary tract, which is characterized by a bright red spurt. In the presence, though, of moderate or small hemorrhage the ureteral spurt, as a rule, will assume a more yellowish or indistinct color, which cannot be differentiated from that of the bladder fluid and therefore ureteral catheterization must be resorted to. In the presence of unilateral hematuria clear fluid will, by this means, be obtained from one and blood-colored urine from the other ureteral catheter.

The local diagnosis by means of ureteral catheterization is often complicated and difficult. Every cystoscopist knows that the introduction of a catheter into the narrow ureteral canal is fraught with more or less traumatism followed by microscopic or, not infrequently, macroscopic appearance of blood. The differentiation of this artificial from a spontaneous hematuria is, in most instances, feasible on the basis of the microscopic findings of

* Read before the Forty-fourth Annual Meeting of State Society, Santa Barbara, April, 1914.

the two sediments, pale blood disks and especially blood-shades pointing to a pathological focus on one side in contradistinction to the fresh red or crenated blood corpuscles appearing in the bloody urine due to traumatism. If, moreover, the catheters have not been carried through the whole length of the ureteral canal to the pelvis, it is sometimes only necessary to push them a few centimeters further up, and away from the point of suspected traumatism, when the blood-color of the urine on the one side will either disappear entirely or be perceptibly reduced in intensity, while it will remain equally intense in the urine obtained from the diseased side. The diagnostic uncertainty due to admixture of blood in renal urines caused by diapedesis through prolonged pressure of the catheter, can be avoided by reserving the urines collected the first few minutes for microscopic examination.

These measures are of extremely practical value and by their application it is, in the greatest majority of instances, possible to determine whether in an existing hematuria blood originates from one or from both ureters simultaneously.

Whether, though, the focus is located in the kidney itself or its pelvis cannot be ascertained either by cystoscopy or ureteral catheterization. Even the microscope will, but rarely, permit of correct differential diagnostic conclusions. In the majority of instances only blood-cells in abundance will be demonstrable. The significance of differently shaped and sized epithelial cells as regards the focal diagnosis, so persistently accentuated by Heitzmann of New York, is overestimated and may lead to erroneous conclusions. The only microscopic evidence of real value is furnished by the appearance of casts, which conclusively point to a pathological process of the kidney proper. More valuable, in this connection, are other methods of examination like radiography and bacteriological investigations (for tubercle-bacilli, *b. coli*, etc.), which together with the consideration of the whole clinical picture will, in the great majority of cases, enable us to formulate an exact focal diagnosis.

After determining the focus of bleeding, its etiology and underlying pathological process must be the object of our diagnostic investigations.

Bleeding from the anterior urethra is a comparatively rare occurrence. It may be due to a very intense acute gonorrhea, when after repeated erections the spontaneous discharge at the external meatus is tinged with blood. The diagnosis of this condition is easily feasible on the basis of the history, by local inspection, and particularly through microscopic evidence. Equally easy is the recognition of an urethral hemorrhage caused by stricture which occurs, at times, through laceration of a small vessel behind the strictured area due to the patient's continuous straining in micturating. The introduction of a button-sound suffices to secure the correct diagnosis. Trauma of the urethra connected with hemorrhage may be caused by pressure or blow from the outside, by the introduction of an instrument or by an intra-urethral operation. It is important to know that

an outward sign of a trauma or a perceptible lesion of the integument of the penis may be entirely missing in the presence of an intraurethral rupture. For diagnostic purposes it suffices to introduce a soft-rubber catheter, which can easily be passed to the bladder in case of a small tear in the urethral wall, while in the presence of a more extensive laceration or complete rupture, the beak of the instrument will become stuck at the point of interruption of continuity.

Terminal hematuria is a frequent and the most important symptom of bleeding from the posterior urethra. Of etiological moment in this connection are a severe posterior gonorrheal urethritis (the so-called cystitis coli), tumors located in the posterior urethra, and a pathological process of the seminal vesicles. The diagnosis of terminal hematuria in acute cystitis coli is, obviously, easy; its occurrence is readily explained by the severe tenesmus characteristic of this form of gonorrhea, of which it is a symptom of almost pathognostic value. Terminal hematuria is also a not infrequent occurrence in chronic posterior urethritis where, after the disappearance of all untoward subjective manifestations, it may be the only symptom pointing to a still existing pathological process at or near the bladder entrance.

Affections of the seminal vesicles, with terminal hematuria, are characterized by losses of sanguinolent sperm and a nodular involvement of the vesicles which can be ascertained by palpation from the rectum. Tumors located in the posterior urethra, which almost without exception are papillomas, can at present be easily recognized by irrigation-endoscopy. A papilloma at that location may exist a long time without any untoward subjective or objective symptoms except that of terminal hematuria.

Small concretions of the bladder may occasionally cause terminal hematuria. If a small calculus, at the end of the miction, is pressed against the bladder neck, it may, through traumatism of the internal sphincter, cause the evacuation of a few drops of blood. The same symptom may occur in vesical papilloma located near the sphincter; one or more of the easily bleeding villi of the neoplasm may, at the end of micturition, be caught between the contracting fibers of the sphincter causing, by these means, rupture of a small vessel, resulting in the appearance of a few drops of blood.

Hemorrhage from the prostate occurs quite often in prostatic hypertrophy. The general belief, hematuria in connection with senile enlargement of the gland to be almost always indicative of cancer, is erroneous. Hematuria in a prostatic may occur suddenly and without an apparent cause and may be as abundant as that caused by cancer. For the correct interpretation of such an occurrence cystoscopy is very useful and at times indispensable, provided it is feasible. For in the presence of a voluminous prostate it is often impossible to pass a metal instrument, and inspection of the bladder through a cystoscope *in situ* cannot be accomplished in many cases on account of severe and continuous bleeding. Of dif-

ferential diagnostic moment between bladder-tumor and affections of the prostate are, besides that, two symptoms: bleeding may occur, as soon as an instrument reaches the prostatic urethra, and an existing hemorrhage may, by this means, be intensified. If, moreover, in irrigating the bladder through the shaft of the cystoscope the last few drams of the otherwise clear fluid repeatedly return bloody, then the prostate can be assumed to be the source of bleeding.

Bleeding from the bladder may be caused by neoplasms, concretions, foreign bodies and inflammatory processes of the vesical mucosa.

The classical and, in many instances, the only reliable method for the establishment of a correct diagnosis is cystoscopy. The evidence is thus procured rapidly and often at one glance without any harm and appreciable discomfort to the patient. Unfortunately, though, cystoscopy is not feasible in every case of bladder-hematuria. Severe bleeding, stricture of the urethra, intense tenesmus, etc., are mentioned as some of the unsurmountable impediments to successful cystoscopy. Therefore a few essential points which are of practical value for the establishment of a probable or non-cystoscopic diagnosis should be borne in mind: Hematuria due to bladder tumor will, as a rule, appear quite suddenly and without an apparent cause, while that due to concretions is in most instances caused or intensified by exercise. Bleeding due to tumor is generally painless and more profuse than that caused by stone; the former rarely yields to treatment, while the latter is connected with pain and, as a rule, will cease at bed-rest of the patient. Characteristic of tumor hematuria is, besides that, that it may, after a shorter or longer duration, stop as suddenly and unaccountably as it started. Bleeding due to cystitis is generally complicated by more or less intense tenesmus and by the microscopic appearance of pus. The most important and most frequently observed type of bleeding connected with an inflammatory process of the bladder may occur in tubercular cystitis, as a sequel to unilateral renal tuberculosis. It is worthy of mention, in this connection, that the slight hematuria or the blood-tinged appearance of urine characteristic of tubercular cystitis is, almost always, due to tubercular ulcerations of the bladder-wall.

Bleeding from the ureter may be due to stone or neoplasm. Tuberculosis of the ureter is justly looked upon as a sequel of nephrophthisis and, therefore, does not need to be considered as an affection per se. The diagnosis of stone of the ureter is made by means of radiography in connection with a shadow-casting catheter and is unimpeachable, if the stone-shadow lies within the course of the ureteral shadow. Tumors of the ureter are, as a rule, observed in connection with neoplasms of the bladder or the renal pelvis, although quite a number of isolated papillomas of the vesical end of the ureter have of late been observed cystoscopically.

The diagnosis of the etiology of bleeding from the kidney and renal pelvis offers many perplexing difficulties.

Nephrolithiasis as a cause of hemorrhage from the kidney or its pelvis presents similar symptoms as vesical lithiasis. The bleeding is scant, it becomes intensified by exercise and, as a rule, ceases at bed-rest. Although radiography is justly considered a very important means for the recognition of nephrolithiasis, it may lead to grave diagnostic errors and should not be overestimated to that extent as to be considered the only clue to a correct diagnosis. Small urates, so often the cause of intense pains are, as a rule, not visible on the plate, while stone-shadows, not rarely, will appear on the plate, which may lead to an erroneous diagnosis at the hands of even experienced observers.

Hemorrhage in connection with renal tuberculosis is one of its characteristic early symptoms, a fact that should be borne in every practitioner's mind. A severe attack of hematuria may occasionally be the first and only symptom of the malady. Later stages are characterized by either insignificant macroscopic or only microscopic hematuria. The diagnosis of renal tuberculosis and particularly that of its incipient stage is almost always feasible on the basis of the bacteriological examination of the urine sediment and especially by means of the guinea-pig test.

Hematuria due to renal neoplasm may appear just as suddenly, be equally profuse and refractory to treatment, and disappear just as unaccountably as that caused by bladder tumor. In the absence of other characteristic symptoms (pain, cachexia, palpable mass) hematuria may be the only symptom pointing to the presence of a grave lesion. The late Nitze, therefore, used to advise early cystoscopic investigation in cases of suspected renal tumor, to be carried out during the course of active hematuria and to be followed by exposure and, if indicated, removal of the bleeding organ. No significant progress as regards a more exact preoperative diagnosis has been made since Nitze's day. The determination of relative renal function, which is of such marked diagnostic value in other renal surgical lesions is, as a rule, of no material aid in these cases of renal malignancy, since appreciable deterioration of function on the affected side would be noticeable only in case of destruction of the largest part of kidney-parenchyma through tumor tissue. In the presence, though, of a malignant neoplasm occupying a smaller part of the kidney and particularly in the most frequently occurring renal neoplasm viz: the hypernephroma, which inclines to early and multiple metastases, the affected kidney is frequently found to be functionally intact. The diagnosis, therefore, in a suspected renal neoplasm marked by hematuria can, in many instances, only be made at the operating-table.

Two other pathological conditions, viz: unilateral nephritis and the so-called essential hematuria from an otherwise healthy kidney, may, like renal neoplasm, cause no other subjective or objective symptom except profuse hematuria. On the basis of prolonged observation and repeated careful urinary examinations a true nephritis will, of course, almost always be recognized through appearance of albumen and casts in the urine;

but while this inflammatory process generally occurs bilaterally, hemorrhage, quite often, may be present on one side only. The correct interpretation of the underlying pathological process of the profuse hemorrhage originating from an otherwise macro- and microscopically healthy kidney is still sub judice. Hematuria may, thus, be the only symptom in common to these three pathological conditions, viz: Renal neoplasm, some types of nephritis with unilateral bleeding, and the so-called unilateral renal hemophilia or, as it is termed by others, renal angioma, and since the existence of malignancy, by means of conservative methods can, as a rule, not be excluded in these lesions, the early exposure of the bleeding focus for diagnostic purposes seems to be indicated.

The knowledge of what can be accomplished by a more exact diagnosis of hematuria is the only key to early and rational treatment. This is a subject of equally wide scope and importance and ought to receive the attention of this Society at a future occasion.

CLINICAL RECORDS.*

By EUGENE S. KILGORE, M. D., San Francisco.

I. OUTLINE OF CASE HISTORIES.

The following outline of history and physical examination with remarks on the same is from the "Ward Reference Book" of the University of California Hospital. It is the prescribed form for use in the medical service of Dr. H. C. Moffitt, and with suitable modifications, it is used by the other services. It is put in the hands of medical students during the course in physical diagnosis and is thereafter followed by them in their case reports. It is not offered as anything original (in particular, we acknowledge indebtedness to Dr. Richard Cabot for suggestions), but merely as an example of a form which has been found satisfactory and useful in teaching and in standardizing the clinical records of the hospital. The adherence by interns to a standard arrangement of histories reduces the number of important facts which fail to get into the records and is an aid to the one who reads the histories in search of particular statements. The exact arrangement of the history form is largely a matter of individual preference, but certain points which merit special consideration are brought out in the "Remarks and Directions to Interns" which follow.

The outline is exemplified by the following case: Doe, John J.

Aug. 2 PREVIOUS ADMISSION:¹ Jan. 8-30, 1915. 1912. DIAG.: APPENDICITIS. After 3 days' illness, op. showed ruptured appendix. Drainage. Uneventful recovery.

* In this and following articles is described a system of clinical records which has been developed in the last three years in the University of California Hospital. It is intended for use in a teaching hospital adequately manned by interns, residents, visiting staff and filing clerks. An article by the writer, entitled "Clinical Records in Relation to Teaching and Research: a Plan to Promote Conservation and Utilization of Material," is appearing together with an article on "Diagnosis Nomenclature," by Dr. James L. Whitney, in a current number of the Boston Medical and Surgical Journal. Reprints of the series when complete, together with sample record forms and diagnosis nomenclature, will be sent on request.

O. P. D.[†] FINDINGS:² WASS. neg. (July 20, '15). FECES: Guaiac neg. EWALD MEAL: Free HCl 20, Tot. ac. 30. Bismuth plates taken.

F. H. F, 4 B & S I & w.³ M d aet. 78 of hemiplegia. 1 B d of pulm. tb. 5 yrs. ago (co-residence during last few months). Wife & 3 Ch. 1 & w. 1 induced then 2 spontaneous misc. before first Ch.

P. H. RES. & OC.:⁴ Stockton, Cal. 0-19 (school) San Fran. 19-22 (clerk, pressman); then visited Panama, Chile, San Diego, Seattle several times 22-24 (steward); San Fran. 24-37 (electrotyper—frequent graphite dust, some acid fumes (SO₂?), much contact with metallic lead, some with copper—no precautions). No occupational strain.

SOCIAL DATA:⁵ Steady worker 8 hrs., 6 days, \$100 per month. He is the sole support of family of 5 in small 3d floor flat. Felt "tired for years," but could not afford vacation.

HAB.:⁶ 1 cof., 1 tea daily. Occasional beer; never drunk. Tob. averages 10 cigarettes daily.

DISEASES:⁷ Measles, scarlet f., pertussis in childhood. Rheum. f. aet. 25 (bed 4 wks.—ankles, knees, wrists in succession). Appendicitis aet. 34 (vide supra). Otherwise always strong and well. No typhoid. VENEREAL denied.⁸

P. I. COMPLAINT:⁹ Abdominal pain.

During¹⁰ the last 8 months, at intervals of 3 to 21 days he has suffered from ½ to 12 hours at a time SEVERE BURNING and at times colicky PAIN IN THE RIGHT HYPOCHONDRIUM, often radiating to the right shoulder, never elsewhere. Attacks have sometimes begun when he was in bed; there is no apparent relation to meals or exercise. The pain is sometimes relieved by pressure or hot applications; it was not affected by 8 gm. of soda. During attacks he has sometimes felt FEVERISH, but there have been no chills and no nausea or vomiting. Following one attack his wife thinks his EYES WERE SLIGHTLY YELLOW TINTED. Dark urine, clay or tarry feces never observed. No changes in vision, urination, or sexual power; no night ataxia or other sensory or motor symptoms.

Appetite and general strength have remained fair, although the ATTACKS ARE BECOMING MORE FREQUENT AND MORE SEVERE and often interrupt his otherwise sound sleep. Constipated for years. Wt. 70 kilo. 1 yr. ago, 65 now. (No diet restriction.)

P. E. Av. d. & n., lying comfortably in bed, not sick looking. SKIN, sclerae, muc. memb. sl. pale. No jaundice. PUPILS eq., circular, react to l. & d. EYE muscles, EARS, NOSE neg. TEETH good. GUMS, TONGUE, THROAT neg. No lead line. THYROID, SUPRAC. LYMPH NODES neg. No supraclavicular l. n.

CHEST: moderate funnel shape.

LUNGS:¹¹ Rt. apex in front above second rib sl. dull with incr. voice and whisper, no rales (probably physiological). Otherwise neg.

HEART:¹² Apex impulse not seen but felt in 5th space 10.5 cm. from midline (1 cm. inside nipple line). Dullness from

† A list of abbreviations is to follow. For convenience the following are given here: O. P. D.—Out-patient department. F. H.—Family history. P. H.—Past history. P. I.—Present illness. P. E.—Physical examination. F, 4 B & S I & w.—Father and four brothers and sisters living and well. M d aet. 78—Mother died at the age of 78. Res. & Oc.—Residence and occupation. Av. d. & n.—Average development and nourishment.

midline; 11 cm. to left in 5th sp., 3 cm. to rt. in 4th sp., 2nd rib above. Sounds reg., good quality. $A_2 > P_2$, neither abnormal. A soft blowing systolic murmur over the lower precordia and axilla, is loudest at the apex.

PULSE:¹³ rate 70. Radials eq. reg., normal vol. and compressibility. Artery walls neg.

ABDOMEN: Level, symmetrical, soft, tympanitic throughout. No hernia. LIVER dullness 5th rib to costal margin in nip. line. Edge not felt. SPLEEN and KIDNEYS not felt. Moderate tenderness on deep palpation in right hypochondrium, increased by inspiration. No mass felt. Peristalsis not observed.

PENIS and TESTES neg.

BACK: Sl. dorsal scoliosis. Otherwise neg.

EXTREMITIES: neg. No paralyses.

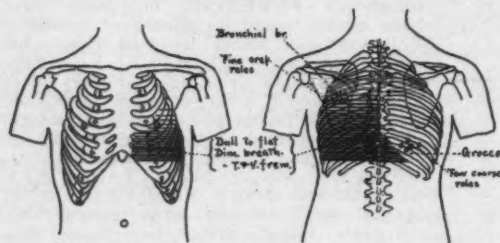
REFLEXES:¹⁴ patellar, Achilles, plantar, abdominal, cremasteric normal.

RECTAL EXAM. neg. No masses felt.

REMARKS AND DIRECTIONS TO INTERNS.

This example of history and physical examination is given to illustrate the form and approximately the minimal amount to be included in the medical records of the University Hospital. The capitalized words are those which would be underlined in writing. The statements in heavy type, it will be noted, pertain to this particular case and are not to be included in the "minimal amount." They are examples of a class of statements which is to be used "p. r. n." Thus, every case will present one or more possible diagnoses, and in writing the record the aim should be to give all the evidence for or against each possibility. (See paragraph below on "following clues.")

Negative statements other than those used in



this record should be added wherever they will satisfy a reasonable curiosity on the part of the reader, but not otherwise. Make the record complete but to the point. For example, the statement "No rose spots" under the heading of skin, if true, would be very desirable in the description of a case of fever of unknown cause; but it would be out of place if the case were one of chronic nerve disorder. (The routine recording of a number of negative facts in Family History and Past History is provided for on the "clinical index cards" described elsewhere.)

The numbers of the following paragraphs refer to the numbers on the history above.

(1) When a patient re-enters the hospital his old record should be read and abstracted *very briefly*. (2) If he has attended the out-patient clinics, the *important* findings from the out-patient record should also be set down *very briefly* as here

illustrated. In many cases also time can be saved and important matter added to the records by communicating at once with physicians other than those in the out-patient department, who refer cases to the hospital. So far as possible, such data should be placed at the beginning of the record rather than later on.

(3) The permissible abbreviations are mostly obvious in meaning. A list of those to be allowed in the records is to be given later.

Record the health condition or fate of parents, brothers and sisters; also husband or wife, if married, and children. If there have been miscarriages, give particulars as here illustrated; if not, write "no misc."

After eliciting a negative family history, ask about tuberculosis in any member of the family or other exposure to tuberculosis. Also, if the case suggests as a possible diagnosis apoplexy, epilepsy, insanity, neurosis, hemophilia, diabetes, congenital syphilis, or other possibly inheritable disease, let the record show that you have carefully looked for evidence of inheritance farther than the immediate family. In a suspected contagious case opportunities for exposure may be placed here.

(4) Note that in this paragraph on Residence and Occupation a considerable amount of detail is recorded with very little writing. The first line, for example, takes the place of: "He was born in Stockton, Calif., and lived there until he was 19; occupation, attending school."

Be particularly specific in regard to occupation, indicating so far as possible (a) what part of the work the patient does; (b) what materials he handles or what his exposure to dust, heat, moisture, etc., or (c) to what postural, muscular, or nervous strain he is subjected. It would be quite inadequate, for example, to put this man down simply as "printer." A standard text-book on occupational diseases is to be kept in the ward, and should be referred to constantly *during the history taking*.

(5) Social data should be obtained with tact, of course, but also with faithfulness. These facts may have great diagnostic and therapeutic importance. (As soon as the hospital organization will permit, it is desirable to have this data gathered systematically by a social service worker.)

(6) Habits are to be mentioned in a fourth paragraph under the past history. Make positive or negative statements in regard to tea, coffee, tobacco, and alcohol, also other drugs if you suspect them. Avoid the use of indefinite terms such as "moderate"; state the average number of cups or glasses daily and the average daily consumption of cigarettes, pipes or cigars. Do *not* describe appetite, sleep, bowels, etc., here. These statements often come naturally in the description of the present illness, as here illustrated; and when they do not, they should be summarized in a final paragraph of the present illness.

(7) As nearly as possible give diseases in chronological order. In cases where there may be doubt of the diagnosis, e. g., after a history of "rheumatism" or "malaria," record if possible enough par-

ticalars to show the nature of the disease. Ask about all the common diseases; but do not write down the diseases the patient has *not* had unless there are special reasons for so doing. E. g., if the case is one of suspected endocarditis, it is well to write: "No rheum., chorea, or tonsillitis," if gall or kidney stones, "No typhoid," or if nephritis, "No scarlet f."

At the end of this paragraph, after the word "Venereal" in the case of every male patient, write either "denied" or a statement in regard to venereal disease. Be conservative in the use of the terms "chancre" and "chancroid." Usually it is better to say, "genital sore," and to follow this statement with a parenthesis containing all the available evidence as to which it was; e. g., the incubation period, presence or absence of buboes, secondary rash, sore throat, falling hair, etc.

Be careful not to offend women by asking questions about venereal disease. When they have it they are very likely to be unconscious of it; and as a rule most of the evidence which their history affords is indirect, e. g., miscarriages, skin, throat or pelvic symptoms, etc.

(8) In histories of women a fifth paragraph under the Past History reads something like the following:

"CTA. began aet. 13; always reg., painful before the flow, normal in amount"—or whatever the story is.

(9) The "Complaint" is to emphasize what brings the patient to seek medical advice. Sometimes this is best expressed in the patient's own words, e. g., "Bursting feeling in abdomen"; but more often the patient's statements are round about and strongly tinged with ideas of his own or other peoples' about the pathology and diagnosis of his condition. It is senseless to record: "liver trouble" or "weak kidneys," when the patient's trouble is really constipation or pain in the back; and it is of no advantage here to quote his own words about sitting in a chair all night when "orthopnea" will express perfectly his complaint. Do not write two accounts of the Present Illness. The "Complaint" should seldom occupy more than one line.

(10) Up to this point most histories can be written at once in permanent form, but a good description of the present illness cannot often be made without taking preliminary notes and carefully planning the arrangement of the facts. Toward the end of the questioning an excellent plan is to run over mentally the different "systems," e. g., nervous, digestive, circulatory, respiratory, cutaneous, genito-urinary, and to ask particularly for symptoms connected with each of them. But in writing out the history it is not desirable to make subdivisions according to anatomical systems, as this almost invariably leads to needless use of space and destroys the directness which is so desirable. Those whose history-recording machinery is too elaborate are the ones who miss the essentials when they lie a little off the regular track.

Few general rules for the arrangement of the "Present Illness" can be given. The aim should be to express in the fewest words a complete and connected account of all the important symptoms.

Often the first sentence can give the time of onset of the main symptom; whether it has been continuous or intermittent, and if intermittent, the duration of attacks and of intermissions; then a typical attack may be described in detail. As a rule the chronological order is the best for describing the events of an illness; at other times it is better to follow through individual symptoms. But whatever the order adopted, *finish one description before passing to another.* This not only helps the writer of the history to get all the facts, but it is of great assistance to the one who tries to interpret them. It also makes the record less bulky. For example:

"Three weeks ago the patient began to be troubled with a pain in the abdomen. It is sharply localized in the right hypochondrium. No history of trauma obtained. Remembers no indiscretions of diet. The patient says he is now getting worse. The patient has had the pain continuously from the onset. The pain is described as of a dull, aching character. Sometimes he has complained of colic. Has not been able to sleep for the past few nights. The pain has never radiated. He has also been tender to touch over the right hypochondrium. The present attack came on gradually."

Compare this with the following:

"Three weeks ago, without trauma or other known cause, the patient began gradually to suffer a dull, aching, sometimes colicky pain, not radiating, and associated with tenderness in the right hypochondrium; it has continued to the present without intermission and with increasing severity, preventing all sleep in the last few nights."

Following clues. Whenever a possible diagnosis is suggested by any point in the history (or the examination), group all the evidence on this point, either for or against, which can be elicited from the patient. For example: If you have recorded that there has been swelling of the ankles, do not leave this point without either describing other symptoms which may be referable to heart or kidneys, or writing "no dyspnea, cough, palpitation, nocturia, oliguria, headache, visual or digestive disturbances." As a rule, negative statements should not be made except in such cases as this where they anticipate the natural curiosity of the reader.

Irrelevant matter. While endeavoring to record all the facts that may have a bearing on the case, do not be influenced by the patient to write down irrelevant matter. What is wanted is an accurate account of *observations* made by him or his friends, divested of the *inferences* which are so often associated. If the patient can repeat the opinion of a competent physician, or can state the amount of quinine, mercury, arsenic, digitalis, or biologic treatment he has taken, these facts and a few others should of course be set down in detail; but most of the stories about doctors and medicines should be omitted.

For the sake of brevity, incomplete sentences like the ones used in the example above may be employed at times, but the main part of the description of symptoms should be in good grammatical exposition, smooth, clear, and concise.

The *main* symptoms as they appear in the history

and the abnormal physical findings should be underlined. (For printing it has been necessary here to capitalize these statements.) This will permit an instantaneous visual summary quite as well as an elaborate system of marginal headings. *Do not sacrifice effectiveness by underlining too much.*

(11) The examination of the lungs may well be divided into the separate processes of inspection, palpation, percussion and auscultation, but it is not well to record results in this order. If, for example, abnormal signs were discovered at the right apex and the left base, each situation should be described separately.

Unless the lung findings can be clearly expressed in a few words, they should be supplemented by diagrams stamped on the history sheet. If the entire length of the diagram of the rubber stamp is not needed, the superfluous parts may be eliminated by laying down pieces of paper over the record before applying the rubber stamp.

The use of signs to indicate pathological conditions in the lung had better be limited to those shown in the accompanying diagram (Fig. 1), and in every case they should be unmistakably labeled in writing.

(12) By "apex impulse" is meant the lowest and outermost point at which the cardiac impulse can be distinctly perceived, not necessarily the point of maximum intensity. It should be localized by giving the interspace, the distance from the midline, and the distance inside or outside the nipple line; or, if the nipple is not a fixed point, the midclavicular line. Use the form of sentence indicated for giving the outlines of dullness. Unless otherwise specified it is understood that the right and left borders were measured from the lowest levels at which these borders could be percussed, i. e., just above the liver dullness on the right and in the apical region on the left.

" $A_2 > P_2$ " means that the second heart sound heard in the second right interspace just beside the sternum is louder than the second sound heard in a corresponding area on the left. The examiner should then state whether or not he considers either of the sounds to be pathological, i. e., abnormally accentuated or diminished.

Rather than state that a murmur at such a place is "transmitted" to such another, it is better ordinarily to give the total area over which it can be heard and the surface point where it is loudest. In this way one can give all the facts at his disposal without asserting something which he really does not know but only surmises, namely, the point of origin of a sound and the direction in which it is carried.

(13) Under the heading "Pulse" should be mentioned the rate rhythm, volume and compressibility (systolic pressure), also the condition of the artery walls in the radials or elsewhere. In special cases it will also be desirable to state whether or not the radial, carotid or other pulses are equal and synchronous.

(12) While in general it is desirable in writing the physical examination to be purely objective and to avoid stating the examiner's personal ideas as to

the meaning of things, in the case of reflexes, the term "normal" is convenient, and should be within the examiner's power to use truthfully.

The term "negative" or "not remarkable" is ordinarily used instead of "normal" because it is more conservative; "negative" simply means that the examiner did not find any abnormality worth noting. "Normal" in most cases implies a degree of knowledge greater than can be obtained with certainty from the examination.

CONDITIONS IN THE LOWER BACK INVOLVING THE SACRO-LUMBAR AND SACRO-ILIAC ARTICULATIONS.*

By C. L. LOWMAN, M. D., Los Angeles.

The careful consideration of symptoms and findings in cases in which the lower back is involved has, during the past few years, opened up the way to fruitful results, clearing the way for the relief of a large class of cases, such as the so-called "sciatica," "sciatic rheumatism," "lumbago," "neuritis," etc., which have gone the rounds, getting varying degrees of help, or none at all.

We were formerly erroneously taught that the sacro-iliac joint was not a true joint, and that in the adult the sacrum fused with the iliac bones. Later, from observations in obstetric practice, in injury cases and in cases of pathologic lesions in this locality, various men were moved to closer study of the anatomy of this region. Goldthwait, especially, was one of the earliest to bring this to the attention of the profession. Albee, in dissections on forty or more cadavers, found true joint structures, synovia, cartilage, etc., and decided the sacro-iliac joints were true joints.

The increasing attention given to postural needs, studies in relation to clothing, etc., also emphasized the importance of this connecting link, anatomically, between the trunk and the lower extremities, and the application of this knowledge brought results. Consequently, diagnoses of sacro-iliac strain, sprain, dislocation, subluxation, chronic slipping of the sacro-iliac, etc., became common in our orthopedic practice.

It was found, however, that certain of the cases did not respond as readily as others, and measures recommended by Goldthwait and others didn't seem to help. These problems are being worked out, showing that, although many symptoms are alike in these cases, upon finer and more careful diagnosis and clinical observations, they belong in the group involving the sacro-lumbar articulations.

To refresh our minds a little let us glance at the principal anatomic features in the region under consideration. The spinal column, a flexible, movable shaft, rests upon the body of the first sacral, on an area which is, roughly speaking, one and one-half to two inches in diameter; it is held in position by ligaments and prevented from sliding forward normally by the articular processes. The lateral mass, or wings of the sacrum, appear on either side, bearing a prominence, or tubercle, on their upper border and extending outward to meet the ilia about on a level, or a little lower than the

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level, of the vertebral articulation, flaring up somewhat at the outer, upper angle above the sacro-iliac joints. The articular processes usually extend upward and downward, vertically. The last lumbar vertebra varies considerably, but usually its lateral processes pass above the lateral mass of the sacrum, clearing it from one-fourth to one-half inch, and should lie anterior to the posterior portion of the crest of the ilium, as it curves downward and backward.

So much for the normal anatomy, or rather what was taught to us as normal, which is of little use to us in handling or considering affections in this region, for the reason that most of the cases that come to the doctor are not true to the ideal anatomic type as taught us in our texts. It is rather the variations from type, or really, an entirely different type, in whom we find changes, not only in this region but in others as well. Goldthwait claims that about one person in five has congenital peculiarities of anatomy, and consequently of posture. As, for instance, visceroptosis because of a very long mesenteric attachment of the transverse colon, or mesenteries, on the ascending and descending colon, where usually there are none. It is interesting to note that it is largely in this type that we find so many of these postural defects, and also that they constitute a very large proportion of our functionally weak and partially invalided class of chronics, or those who correspond in Treves's classification to the carnivorous type, Bean's hyper-onto-morph, and the "congenital visceroptotic" of Goldthwait. In the vertebral column in this class of individuals we may look for peculiarities at the points where the vertebrae change type, i. e., cervico-dorsal, dorso-lumbar and lumbo-sacral junctions.

The last lumbar frequently takes on partly, or wholly, characteristics of the first sacral, having abnormally wide or flaring wing-like lateral processes, sometimes bifurcated, more often simply widened, and frequently impinging on the tubercle of the sacrum, either because of this abnormal size, or on account of the shape of the sacrum or position of the ilia.

In those who have a deep-set sacrum, or a narrow space between the posterior spines, this is more especially seen. Dwight noted that an articulation often occurred here and named it the sacro-transversalis. We sometimes find an absolute ankylosis; in others we note in the X-ray a gray cloudiness, at others we note in the X-ray a gray cloudiness, partly or wholly obliterating the usual clear triangular space, between the lateral process of the vertebra and the upper border of the sacrum. This occurs in bursitis of this area and also where arthritic changes are taking place. Occasionally one sees abnormally long lateral processes, which are hung up on one or both sides on the ilium. Normally they would appear to overlap or telescope the crest, lying one-half inch or so in front, but in case the lumbar lordosis was absent and the back flat, which would rotate the sacrum and lower lumbar backward, they would be brought together with resulting friction, bursal formation, callus or ankylosis.

One of the X-rays which I am presenting shows an upward tilt to one of the processes, because of bearing against the ilium. In this same connection Goldthwait has pointed out that one of the most important variations is the flattening of the articulation, where the articular processes ordinarily would interlock. In place of being vertical, the joint may be crescentic or low and flat. The importance of this is that it allows forward and backward motion, or a sort of rotation around a vertical axis, and this would bring the lateral process too far back, and continued motion or injury, develops a bursitis, the swelling of which often binding or pressing on the adjacent nerve root with resulting sciatic symptoms or pain radiated through to the abdomen or anterior region of the thigh; or, osteoarthritic changes coming on, might be the first thing occurring to call attention to this locality.

Of course one may see these variations frequently, when there are no symptoms complained of, but their occurrence is usually noted in those who are more or less mechanically weak. When strain from occupation or sudden strain from injury occurs, they are more prone to be affected. The friction allowed by abnormal looseness or play in the sacro-iliac, or between these sacro-lumbar points of impingement, occurring daily or intermittently, especially in the presence of arthritic tendencies, may produce the above-mentioned formations, spurs, ridges or ankylosis, or undue pressure on some portion of the sacro-lumbar plexus with resulting neuritic symptoms.

An important point, which should not be overlooked in any case with sciatic or back symptoms, is the general posture of the whole body in both planes; for, many times, the local findings, both clinical and X-ray, will not give sufficient light to explain the condition. The general malalignment due to round shoulders or round back, increased or decreased lordosis, short leg, inward rotation of legs and knees, pronated and flat feet, must be ascertained if the best results in treatment are to be obtained and remain permanent.

As I have mentioned posture, probably this would be a good point to note how to align a patient in examination. In the lateral plane, simply by hanging a plumb line, from the seventh cervical and noting whether it passes to right or left of the nates. For the antero-posterior, the line should fall from the tip of the mastoid, through the front of shoulder, great trochanter, just back of patella, and into the foot about one inch in front of the external malleolus. The gravity line of the leg in the lateral plane should fall from the anterior superior spine, through the patella, middle of ankle joint and to the outer side of the head of first metatarsal. The leg length should be measured lying, from anterior superior spine to inner malleolus, and also in the standing position from anterior superior spine to ground, in order to estimate whether a unilateral flat foot or more lowering of the arch on one side than the other is responsible for letting the pelvis down on that side.

The history in these cases is usually typical. Symptoms coming on after a mild injury, such as a

twist or a turn, cranking an auto, stooping over to pick up something, either heavy or light, or occupational strain due to one-sided position. More direct and severe injuries, such as falling on the feet, knees, or buttock, are more apt to produce luxation of the sacro-iliac. Cases of more gradual onset, without much reference to a specific strain or injury, are more than likely due to, or accompanied by, arthritic changes, plus some faulty postural condition. We must, of course, remember malignant diseases, tuberculosis and luetic conditions, all of which may affect this region, but the loss of weight, temperature, cachexia, swelling, and X-ray findings will decide them. Acute infectious arthritis, from Neisserian infections, typhoid, etc., frequently attack this area, but the history, severity of temperature, etc., usually clear the diagnosis.

Certain clinical tests are of value when considered with other findings. Straight leg raising—patient supine—flex thigh to right angle and extend at knee. This tightens the hamstrings and pulls on the ilium of that side. If the sacro-iliac joint on that side is affected the spasm elicited prevents further straightening and the test is said to be positive. In sacro-lumbar cases this sign may or may not be present, but is not so marked unless both regions are involved.

A new test for sacro-lumbar conditions has recently been suggested by Ely of San Francisco. Patient lies prone—an attempt to hyper-flex the knee elicits spasm of the psoas and the buttocks are immediately raised, flexing the thighs. This test is usually negative when sacro-iliacs only are involved.

The bending tests—forward, backward and sideways—are suggestive but may be more or less alike in either case. In sacro-iliac cases only, bending is freer toward the affected side. Forward bending will be limited in either case. If there is lumbar stiffening from arthritic changes the whole area will remain stationary, and move as one piece.

I am working on a test which, I think, may help in differentiating between sacro-iliac and sacro-lumbar cases, but I cannot say yet whether it will work out to be of any value. It is this: with the patient supine—legs extended—forcible attempts to rotate leg inward elicit pain by tension on the piriformis muscle, which I think will not usually occur in sacro-iliac cases. This might be modified by the amount of sciatic pain, because of the close proximity of the muscle to the nerve. It is an interesting fact that the radiated pain in sacro-lumbar cases is anterior to abdomen, groin and front of thigh, whereas, in sacro-iliac cases it is more apt to go down the main sciatic, back of leg.

Citing some cases will convey, as clearly as any other way, points and symptoms to be considered in making the diagnosis and outlining the treatment.

Case I.—This case represents a sacro-lumbar bursitis entirely relieved and controlled by foot and leg correction, followed, after a period of rest, by corrective exercises. No return of symptoms a year after treatment.

History.—Dr. A., March 9, 1914. Formerly dentist. Referred by his doctor for pain and ache in the lower back. Aged 52, weight 158.

Family History. Negative.

Past History. Typhoid about thirty-six years ago. "Sciatica" for past three or four years, "pain back of the hip and running down the leg" (patient pointed to the sacro-iliac area). Has always called it rheumatism. Has been to Arrowhead Hot Springs for a month or two at a time. Some relief but not permanent. Has been very nervous for the past two or three years. Has had several osteopathic treatments without results. Has to favor himself some in moving, especially in bending and twisting. Tires easily on standing. Says it seems good to have the back held up. Movement aggravates and rest improves the condition.

Examination. Posture relaxed. Plumb line falls to the left of the nates one inch. Pelvis tilted to the left. Measurements: Anterior spine to the malleolus, right, 33.5, left, 33.25. Anterior spine to the ground, right, 36.3, left, 35.6. Umbilicus to the anterior superior spine, right, 6.5, left, 6. Episternal to the anterior spine, right, 21, left 21.5. Straight leg tests, right leg rigid, left less so, elicits no pain. Prone lying, right posterior spine lower than the left. Forward bending free. Left bending fair. Right bending freer. No pain elicited and no spasm. Marked inward rotation of the thighs. Marked pronation of the ankles. Moderate depression of both arches. Very slight swelling and congestion. Both feet flexible but not painful. X-ray shows short, wide lateral processes of fifth lumbar. The right one close enough to the tubercle of the first sacral to impinge on movement, and in standing with pelvis tilted to left it probably does. Note gray mass in the interspace, where it should be clear. The left process is bifurcated.

Treatment. Active treatment from April 9th to May 25th, 1914. Orthopedic shoes, with the valgus wedge in the inner border of the heel; one-fourth inch raise. One-half inch pad in the right shoe to change the body poise. Feet strapped and padded with felt and adhesive for a few weeks, followed by arch plates.

Result of treatment. Within three or four weeks patient received relief from the symptoms. Has reported several times since for plate adjustments and shoe corrections and reports that he is still free from all symptoms and that nervousness has all gone.

Comment. You will note that there has been no treatment for the back, with the possible exception of general gymnastics.

Case II. This case represents the dislocation of the sacro-iliac from injury. X-ray presented.

History. Mr. McC., age 27. Strong, powerful man, six feet one or two, weight 205. Presented himself November, 1913, with a history of injury six months previous. Sitting on a box in a freight car while the switch engine was moving the car. Car thrown against bumper and he was thrown off, alighting on the buttock. Treated in the railway hospital, no relief. Told there was nothing the matter. Was given high frequency and massage. Three weeks at the hot springs, no relief. Uses crutches in walking. All body movements guarded. Has extreme list to one side with secondary scoliosis. Straight leg test positive, eliciting great pain. X-ray showed the left iliac crest nearly one inch higher than the right. The sacrum rotated similarly, rising high enough on the left so that the lateral mass on the sacrum nearly impinges against the lateral process of the fifth lumbar. Probably at the time of the accident it did impinge and may have been a factor in increasing the sacro-iliac condition. Measurements: Leg lengths, equal. Umbilicus to anterior spine, right, 8, left, 6½. Episternal to anterior spine, right, 24, left, 22½.

Comment. The deviation is far greater than one would have in an ordinary posture case, but might otherwise occur in a long standing case of scoliosis, or tilted pelvis, such as follows infantile paralysis or T. B. hip, etc.

Treatment. Manipulation under anesthetic, fol-

lowed by plaster casts, spine brace to be worn for at least a year.

Result of Treatment. Case checked up nearly a year later and back measurements found symmetrical. No recurrence of symptoms. Has made no effort, however, to do any heavy lifting.

Case III. This case illustrates severe sacro-iliac relaxation with sacro-lumbar involvement.

Mrs. V. D. Presented herself for treatment November, 1911.

Family History. Negative.

Past History. Had seven children close together. No severe labor, lacerations, or severe pelvic symptoms, except during the last two pregnancies, when she had to be assisted in moving around because of weak feeling and disability in the back.

Present condition dates back to these pregnancies. Her first symptoms being weakness and backache. Her family doctor had advised operation several times, which she refused to have. She was finally referred to me by another practitioner, who diagnosed the condition, as far as saying he felt her sacro-iliac joints must be affected.

Examination showed a typically relaxed and dislocated sacro-iliac joint, so loose that the heavy, crunching crepitation felt posterior to the joint line in the straight leg raising test felt as though one were crushing a handful of gravel in the hand. All movements guarded. All bending tests and leg tests elicit pain. Leg measurements, left leg one-fourth inch shorter than the right. Episternal to the malleolus measurement three-fourths of an inch shorter on the left, giving her an uncompensated list to the left. X-ray showed more or less arthritic appearance between the fifth lumbar and the sacrum, with impingement between the lateral processes of the fifth lumbar and the sacrum. These processes were abnormally wide and long and showing an attempt to sacralize, imitating the characteristics of the first sacral.

Treatment. Put in plaster girdle in the suspended position with the body sagged forward into hyper-extension. Relief was great enough from this cast so that she gained twelve pounds in the first month, then she tripped on a rug and dislocated the joint under the cast. Came to the city the same night and had another cast put on the next morning. Correction of her general statics was also seen to, and the sole of her left shoe was raised in order to level the pelvis. She returned to her home on the desert. Cast felt much better than previous one.

Comment. This patient was told that she probably would have to be operated on, or at least manipulated, but under the circumstances it was impossible for her to have this done, so the casts were followed by corrective corsets and her body balance was adjusted. Examination made in February, 1915, showed that she was practically relieved from all sacro-iliac symptoms. Straight leg test negative. No crepitation of the joints. No pain on manipulation, but quite sensitive to pressure over the lower lumbar vertebra and over the right sciatic notch. Also sensitive over the right scapula.

This case illustrates very well what long-continued, conservative, supervised treatment will accomplish. This case was one of the most severe of its kind that I have ever seen.

Case IV. This is a case of sacro-lumbar bursitis and malposture.

Dr. L., age 54, weight 148. Presented for treatment March 10, 1915.

Past History. Typhoid at seventeen years, long convalescence. Always under normal. Anemic. Nervous break down last three years from overwork.

Present condition dates back a year. Formerly "never knew he had a back." Condition started up with shooting pains down the leg. Stayed in bed a month. Used to prop himself up to read (which he still does). Rested two months longer.

Noticed sore spot over sacro-iliac area on both sides, but in fairly good health until a month ago, when he noticed that if he sneezed he would get a pain down the leg. At present he says it hurts to twist or turn and especially to bend forward. He avoids all jars. Practically all motions guarded. Hyper-extension relieves. Feet and legs tire easily. Wearing a shoe-store plate. Pain radiates forward along the inside of the thigh and nearly down to the ankle.

Examination. One mid-dorsal vertebra and the last lumbar very sensitive to pressure. General posture relaxed. Plumb line falls to the left one inch from the nates. Pelvis tilted to the left. The trunk and leg one-fourth inch shorter on the left side. Straight leg test slightly rigid, but no pain. Ely's test (hyper-flexion of the knee in the supine position) very positive, making him flinch. The pelvis sensitive to pressure over the right lateral process of the last lumbar and over the sciatic notch. Left posterior superior spine a little more prominent than the right. Spasm of the lumbar muscles considerably more on the right. X-ray shows impingement of the lateral process of the fifth lumbar with tilting of the sacrum and compensatory scoliosis. The right lateral process wide and stubby, the left much wider and bifurcated. The fact that the fifth lumbar aligns with the sacrum shows that in lateral bending it acts with it, consequently, it must lever down in lateral movements with a tendency to strain the sacro-iliac joints.

Treatment. Reposturing. Spinal brace with pelvic girdle. Arch plates and corrected shoes.

Result of treatment. April 20, 1915. Reported for arch plate adjustment, saying that he only wore the spine brace occasionally, and the arch plates were so comfortable he presumed I would want to change them. Stated that he was free from all symptoms and could stoop over and pick up a pin from the floor with ease. He couldn't say whether the plates or the spine brace were responsible, but I think each did its share. He can now sneeze or cough with comfort and doesn't have to guard all movements as he did before.

Case V. Miss U. Complaint, backache and sciatica—had a fall from a wagon, striking right side of hip and pelvis. Note some asymmetry in the two sides of the sacro-iliac joints, also the spurs on the crests of the ilia and beginning calcification of the ilio-lumbar ligaments.

Treatment. Reposturing feet, legs and back. Arch plates and corrective corsets, followed by gymnastics. Two years have elapsed and she keeps in good shape as long as she wears the right corsets and shoes.

Case VI. Mrs. J. W. A. Classical case of visceroptotic type. Generally relaxed, with painful spots over whole back, especially right shoulder, from sub-scapular bursitis, and right sacro-lumbar area. Neuritic symptoms in feet and legs. Marked pronation and flattening of arches. X-ray shows sacrum out of line with vertebra. Lateral process close to posterior margin of ilium and shaped as though it had pressed against it, also close to upper border of sacrum. Notice difference in shape of the interspaces on the two sides.

Treatment in this case very slow because of weakness and extreme nervous exhaustion. Kept in a bed stiffened by having boards between springs and mattress. In a darkened room at the hospital for forty-five days before she was strong enough to go to hydrotherapy department. Deep spinal massage and manipulation. Gradually gotten up in a corrective corset having pelvic accessory band, spinal steels and shoulder straps. Corrective shoes; heel of short leg raised and arch supports. Gradually changed from passive to active exercises, at first assisted by nurse. Within a year did a fair amount of housework and looked after two small children. Last report she was still feeling well and doing certain work with care, trying not

to tax her strength. Practically all original symptoms cleared up or controlled.

Case VII. Mrs. I. B., adult. Backache, due to muscle and ligament strain from loosened sacro-iliac and distorted pelvis from fault in development following old hip disease in childhood. Woman otherwise well and strong. Note in X-ray the very different type of fifth lumbar from the above-mentioned ones, ample clearance for the processes, even with the marked pelvic tilt and lordosis and four-inch shortening of one leg.

Case VIII. Mrs. A. L. H. Complaint, backache and sciatic symptoms. Generally relaxed posture, with ptosis, round shoulders, pronated legs and feet, depressed arches. An interesting point in her history is that she was put on a horse at the age of three and rode side saddle during all her growing years. Examination showed scoliosis and pelvic tilt. X-ray aside from confirming this shows left lateral process of fifth lumbar, bearing against the upper outer angle of the sacral wing and the ilium, being bent upward during its development. This case I mentioned in a preceding paragraph.

Case IX. Dr. W. Suffered for years with backache, low down, and severe sciatic symptoms; seen by many men and given many diagnoses. X-ray shows ankylosis at the point of impingement of the right lateral process and the sacrum. The left one being so close that it probably will ankylose. Radiographs were taken in side bending, both ways, and neither side showed any difference of position. Note also the spur on the right side, where the ilio-lumbar ligament attaches. Some fuzziness suggests arthritic changes. In all movements this ankylosis makes the last vertebra act as a portion of the sacrum resulting in mechanical strain. Notice also the small interspaces. It is highly probable that pressure is made on the branch of the sciatic plexus that passes out here.

Treatment. Partial immobilization with spine brace. Baking, deep manipulation and massage. Diagnosis in this case confirmed by Goldthwait.

Case X. Mrs. S. Case of coccydynia and rectal ulcerations with scar tissue. From continued sitting on one side had symptoms of back strain in sacro-iliac area. The X-ray shows clear and shows the vertical articular processes about in their normal positions, and also the more normal type of fifth lumbar vertebra as we ordinarily know it.

Case XI. Dr. A. History dating back several years. Marked limp at present. List to one side. Sciatic pain. Left leg shows atrophy of one inch in thigh and three-fourths of an inch in the calf. Tends to drag leg more when tired. X-ray shows both lateral processes hung up on ilium, and as every other possibility has been eliminated it seems probable that he has a beginning monoplegia, due to pressure on roots in the sciatic plexus.

Treatment. He was manipulated under ether with hopes of removing pressure from present location. Went to Africa as a missionary two weeks later, wearing a spine brace to support pelvis. No report since.

A word about treatment: This has already been referred to in speaking of individual cases. In regard to manipulating under anesthetic. It has been my experience that practically all the cases have benefited by it, even though I have not always had X-ray findings that could demonstrate the probable trouble. I have considered the clinical findings in general and manipulated on the same basis upon which we do a rigid, painful, flat foot. Following this with a plaster spica (the leg portion being on the painful side), from two to eight weeks, and then a spinal and pelvic support,

general correction of other postural faults, as flat feet and short legs. Later corrective gymnastics to offset the vicious effect of corsets and braces. These exercises are begun at points farthest away from affected area and gradually approach it. Limitation of activities that would be liable to cause recurrence of symptoms, such as stair climbing, running a sewing machine, auto riding, lifting in bent positions, rocking in a rocking chair, etc. These cases are usually chronic, taking a long time to get permanent relief, although temporary relief is often magically attained by correct procedure. Operative technic will undoubtedly be developed so that relief will be given to the more severe and persistent cases, especially certain monoplegias and cases with atrophy and lameness. Goldthwait is strongly of the opinion that cases of lateral sclerosis are due to pressure on the posterior roots and the degeneration travels up to the cord instead of down.

He is not encouraged by his two operated cases, where the tip of the lateral process was removed. However, Drs. Blanchard and Parker are just reporting a case in which resection for the relief of pain, numbness and paralysis, was entirely successful and the X-ray showed the impingement of the lateral process of the fifth lumbar on the posterior wing of the ilium—subsequent X-ray showing only the stump.

In concluding let me briefly summarize: It is essential to make careful, all-over examinations in cases involving the back.

Associated with back conditions we find in a great percentage of the cases other postural faults.

Careful study of cases in which there are local symptoms in the lower back and legs will lead us to make more accurate diagnoses and not be satisfied with vague terms, such as "rheumatism," "sciatic rheumatism" or "sciatica."

Anatomical faults in the sacro-lumbar region do exist, and frequently give rise to symptoms varying all the way from simple muscular and ligamentous strain to paralysis from pressure.

As our knowledge increases we shall gradually learn to differentiate between the various conditions affecting the sacro-lumbar junctions and those involving the sacro-iliac synchondrosis.

THE DIAGNOSIS OF URETERAL CALCULI, AND A DESCRIPTION OF A TECHNIC FOR USE OF THE WAX-TIPPED CATHETER IN THE MALE.*

By FRANK HINMAN, M. D., San Francisco.

The symptoms of urinary stone are in no way diagnostic. The colic due to stone differs in no way from that due to blood clots, to kinks in the ureter, to adhesions or bands of constriction about it or to inflammation or congestion within. Ureteral colic is indistinguishable from renal colic: 80% of 131 cases of ureteral stone at the Mayo Clinic had pain referred to the kidney, and appendiceal crises or gall bladder attacks often simulate renal colic. Occasionally the pain due to stone in the lower end of the ureter will be so localized as to be suggestive. On the other

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hand a stone not infrequently becomes lodged in the ureter and produces serious renal damage without giving rise to symptoms of any kind whatsoever. That the size of the stone bears no uniform relationship to the character of the symptoms has been repeatedly observed. This absolute lack of certain correlation between the symptoms and the position, size or even presence of stone in the ureter renders it impossible to determine these three necessary facts from symptoms alone. In certain cases the careful microscopic examination of the urine may prove of considerable assistance. The absence of blood and pus after repeated search is evidence *prima facie* of the absence of stone. Valuable information is exceptionally gained when the stone lies low in the ureter by a rectal examination. But, until the advent of the X-ray, the diagnoses of stone were always provisional and only confirmed upon exploratory operation.

The danger of ureteral stone is well recognized by medical men. Back pressure, that powerful and silent partner of most urinary infections, is almost always present and ureteritis, pyelitis, pyelonephritis or pyonephrosis is the common sequel of every neglected stone in the ureter, and may gravely increase the burden of renal insufficiency. The early determination of the presence of stone in every suspected case, and, in case stone is found, a knowledge of its position, of the renal change and injury already produced by it and that to be expected from it, if it is not removed, and a knowledge of the chances of its being passed spontaneously, if left alone, are highly desirable. The failure to recognize the need of operation may prove of serious consequence; but to operate upon every patient may be likewise criticized, because, in a great many cases, the stone will either pass spontaneously, or may be dislodged and removed by cystoscopic methods. Every patient with abdominal symptoms indicative of stone must be subjected to special routine methods of examination and exploration, and the problems of diagnosis and of treatment are very satisfactorily and thoroughly met in this field of ureteral stone, in spite of its symptomatic poverty, as the result of these newer methods.

Radiography: Undoubtedly the X-ray is a most valuable and direct method for the localization and diagnosis of urinary stones, but it does not possess just the same value for the revelation of ureteral as of renal calculi. It is important to be familiar with the many sources of error. These may be considered as: 1, errors of technic; 2, errors from the failure of the X-ray to show a stone when present, and 3, errors of faulty interpretation arising from shadows outside of the ureter. Technical defects, the responsibility of the radiologist, will sometimes occur even in the hands of the most expert. Their nature is readily suspected but the fact of their occurrence renders interpretation of plates both more hazardous and difficult. Correction and control is insured by a repetition of the picture which is the ideal procedure in every case irrespective of obvious defects.

Radiography has its limitations and will fail to show stone in a certain proportion of cases even

with repeated and most careful technic. Radiologists' opinions of their respective abilities to detect ureteral stone differ considerably. Some few are positive of their ability to show stone in every case. Others omit only a few stones of pure uric acid or cystin composition. Many report their failure to detect a small percentage of all kinds of calculi. Surgeons have frequently removed ureteral stones which previous X-ray had not revealed. Kelly thinks the error due to this failure to be at least 5%. In a recent study of the ureteral stone cases of the Johns Hopkins Hospital J. T. Geraghty and the writer found that in over 15% careful and repeated X-ray examinations had been negative. The identification of the stone in these cases missed by the X-ray was positively made in every case. Two were analyzed and neither contained uric acid or cystin. This estimated failure of the X-rays (one-sixth of the cases) is, furthermore, probably low inasmuch as many cases of suspected stone were not submitted to any other means of identification than the X-ray. Such an evident fallibility in radiography emphasizes the need of further study in every suspected case with negative X-ray reports, which are insufficient alone to exclude stone. The continued absence, however, of microscopic blood and pus with a negative X-ray finding is fairly conclusive.

Faulty interpretation of shadows in the region of the ureter (for stone) have been due to defects in the plate, to appendices epiploicae, to enteroliths, to phleboliths, to bismuth, scybala or foreign bodies (Blaud's pill) in the bowel, to calcareous deposits in the appendix, seminal vesicles or chronic inflammatory tissues, to calcification of glands or muscle, or to atheromatous patches on the aorta or large vessels. Most of these by reason of their character, shape, position and direction of axes are easy of differentiation. Calcified gland or phlebolith shadows frequently present real difficulties. These occur most commonly in the pelvis (II and III of Fig. I) and inasmuch as about 70% of ureteral stones are found below the pelvic brim the intra- or extraureteral position of a shadow here is an extremely important question. The glands along the common iliac vessels frequently become calcified and will appear in the X-ray negative as irregular and patchy shadows, usually multiple, along the pelvic brim (II, Fig. I) and the mesenteric glands when calcified occasionally show in irregular patches along the line of the transverse processes of the vertebral column. The plexus of veins at the base of the bladder on either side will often contain numerous or single phleboliths which will mimic stone shadows in the region of the ischial spine (III, Fig. I).

Position of Ureteral Calculi. The position and course of the ureter has been repeatedly shown to present marked normal variation, which the variability in the mechanics of X-ray photography often exaggerates. Schmidt and Kolischer first emphasized this and from a study of normal cases concluded that it is impossible to state the intra- or extraureteral position of shadows without some means of identification. The ureter may lie any-

where between the mid part of the spine and a line perpendicular to the middle of the crest of the ileum in its abdominal portion while the occurrence of so many extraureteral shadows in the pelvis renders its pelvic uniformity unimportant. The relative frequency of stone in the different portions of the ureter is of anatomical significance. Albarran early noted the fact that the ureter is not a tube of uniform diameter. It presents sphincter-like thickenings of the circular muscle at four points in its course; 1st, at the point where the pelvis of the kidney narrows down to become the ureter, the uretero-pelvic constriction; 2nd, at the point where the ureter crosses over the iliac vessels to enter the pelvis, the superior strait constriction; 3rd, at the point of entrance of the ureter into the bladder, the vesical constriction, and 4th, at the ureteral orifice itself, a point seldom mentioned, but one of importance inasmuch as it may be so contracted as to securely obstruct a stone which has successfully passed the whole length of the ureter up to this final point. These four narrow portions (1st, 2nd, 3rd, 4th, Fig. 1) divide the ureter into three segments or pouches, the abdominal, the pelvic and the vesical. Of Jeanbrau's 204 observations of the position of ureteral calculi 29% were in the abdominal, 54% in the pelvic and 17% in the vesical segment of the ureter. Eighty of one series of 100 cases, and 20 of 28 cases of another series, analyzed by Kelly, occurred in the pelvic pouch. (Number in vesical portion not stated.) Of the 39 cases in which the stone was located by the X-ray studied by Geraghty and the writer 12 were in the abdominal, 22 in the pelvic and 5 in the vesical pouch of the ureter (Fig. 1). In other words, 70% were pelvic, which corresponds closely to the statistics of Jeanbrau; (71% pelvic, 29% abdominal). The fact that ureteral stone is rarely ever located by the X-ray in that portion of the ureter corresponding to the shadow of the wing of the sacrum has never received sufficient emphasis. A shadow of stone does not occur here in even one of Kelly's 128 cases. Hurry Fenwick states that he never saw a stone shadow in this portion of the radiograph. One case in our series occurred in the lower edge of the sacral wing and it is much more likely that stones do occur here and are missed in the X-ray than that this portion of the ureter should be so strikingly immune to their retention. Furthermore, the obstruction in several cases which were personally diagnosed by means of the wax-tipped catheter was met at about the distance of this portion of the ureter from the bladder.

Methods of Identification of Shadows. The determination of the position of a shadow with respect to the ureter, as within or without it, is commonly made by ureterography in one of two ways. The ureter may be outlined in the radiogram either by the previous cystoscopic insertion into it of an X-ray catheter (one with wire stylet, impregnated with bismuth or of metal), or by the previous injection, after the usual ureteral catheterization, of some substance into the ureter which is impermeable to the X-rays (as colargol,

cargentos, silver iodide, argyrol, etc.). The injection method has the advantage of giving more complete, and often very valuable, information in regard to an associated abnormal renal and ureteral condition. Either method will usually determine satisfactorily the intra- or extraureteral position of any suspicious shadow. Sometimes, however, a suspected shadow will appear to lie within the ureter when it really lies either above or beneath it. In such a case either a stereopticon picture or the positive evidence of a scratch on a wax-tipped catheter is required.

Methods for the Revelation of Stone When the X-ray Shows No Shadow. To exclude the presence of stone more than a negative X-ray finding, even after most careful and repeated examination, is required, for reasons already stated. Three methods are available for this revelation: 1, The wax-tipped catheter; 2, the intensification of a stone shadow by the previous injection of one of the silver salts, and 3, the visual demonstration of a stone when projecting from the ureteral orifice or located low in the vesical pouch of the ureter. The wax-tipped catheter was introduced as long as twenty years ago by H. A. Kelly for use with his open-air method of cystoscopy in the female, but it is barely three years since Burton Harris adapted the method to use through the modern closed system of ureteral catheterization in the male. For accuracy in the diagnosis of stone this method excels all others. It is surprising that it has not been earlier and more universally adopted. In seven of the cases of the series already referred to, missed by the X-ray, the diagnosis was made by this method alone, and, even in a fairly clear case, the unmistakable evidence given by a scratch on a waxed tip is always reassuring and welcome. The slowness of its application in the male is due to the technical difficulties of the closed water cystoscope. In the procedure recently proposed by Harris the wax-tipped catheter or bougie is passed into a full bladder and the cystoscope, with the catheterizing telescope in place, is threaded down over it as over a filiform. Naturally the beak of the instrument, in passing through the urethra, must scrape along the catheter (Fig. 2), and the window of the cystoscope, having no obturator, adds additional roughness and difficulty. Very small bougies (preferably Nos. 3 or 4), must be used and even then considerable trauma is unavoidable. There is always danger of scratching the wax tip of the catheter, which is curled up in the bladder and the position of its tip not known, with the beak of the cystoscope when it is pushed into the bladder. And, a still greater fault of the method,—the cystoscope must always be removed before removal of the wax-tipped catheter. To overcome these disadvantages a simple procedure has been used recently in several cases with entire satisfaction. It eliminates the difficulty of threading the cystoscope through the urethra upon the wax-tipped catheter and it permits the removal of the wax-tipped catheter without previously removing the cystoscope. This is a very great advantage. It enables one to pass one or more control waxed tips and thus confirm the findings and

to measure accurately the distance of the stone from the ureteral orifice. It permits an ordinary ureteral catheterization and a complete functional study or the injection of one of the silver salts and a uretero-pyelogram, so that it is possible to obtain complete information at the one cystoscopy to a repetition of which all patients reluctantly consent and many absolutely refuse.

Wax-tipped catheter technic. The Brown-Buerger operating cystoscope is passed into the bladder as for cystoscopy. The obturator is withdrawn, the bladder washed out (cold irrigating fluid should be used so as not to soften or melt the wax) and the operating sheath of the instrument then inserted. A soft rubber urethral catheter which will pass snugly through No. 12 hole of the French scale, usually a No. 10, has been prepared by cutting off its tip and slitting up the end to the proper length of the cystoscope, as shown in Fig. 3. One end should reach to just beyond the lever of the instrument and the other slit so that when the slit ends are turned back they will hold the catheter in this position. A wax-tipped catheter has been inserted backwards into this sheath until its tip is about two inches inside. A rubber stopper with single perforation is threaded back up the wax-tipped catheter to the slit ends of the rubber sheath (Fig. 4). The usual rubber tip (Fig. 5,—1), is too small and a very satisfactory one can be quickly made from the ordinary pipette bulb, as shown in Fig. 5,—2, 3, 4, and 5. The rubber sheath with catheter inside is now passed through the cystoscope to the proper distance and the rubber stopper fastened over the two slit ends spread to opposite sides, thus securely holding the rubber sheath in place and insuring dryness to the cystoscopist (Fig. 6). The end of the sheath should appear in the operating field just beyond the tip of the elevator. The wax tip is now slowly pushed through under direct vision and examined for any defects (Fig. 7). The elevator, which strikes the rubber sheath and not the catheter, is raised (Fig. 6), and the waxed catheter pushed on up safely by the beak of the instrument and into the ureter. The soft rubber sheath thoroughly protects the wax tip in its passage through the cystoscope. It should be well lubricated, both inside and out, so that it may be easily passed through the cystoscope and so that the wax-tipped catheter will easily pass through it. To remove the catheter, after passing it up the ureter as far as desired, withdraw it slowly under direct vision with the lever of the instrument elevated so that when the catheter slips out of the ureter it cannot drop down on to the beak. Because of the rubber sheath the lever will always catch the catheter no matter in what position in the bladder the cystoscope is. As the tip approaches the rubber sheath the elevator is lowered and it passes through stages shown in Figs. 6 and 7 until it comes to lie one to two inches within the cystoscope when sheath and catheter are both withdrawn (Fig. 4). After examining the waxed end a second wax-tipped catheter may be inserted on the same or opposite side, or both ureters catheterized and function estimated, uretero-pyelo-

gram made or whatever study is indicated undertaken, as the cystoscope is still in place.

Intensification of shadow from stone by the previous injection of collargol or other silver salt: This method is applicable particularly to rough or irregular stones which because of their pitted form hold a certain amount of the drug about them to cast a shadow after the rest has drained out of the ureter. It is necessary to take several plates at short intervals after the injection in order to strike the period of optimum adhesion. The procedure may prove valuable in revealing and locating a stone shadow which is missed by the plain X-ray.

Cystoscopy. Stones in the vesical pouch project through the ureteral orifice itself or produce a characteristic bulging of the vesical portion of the ureter which can be readily seen through the cystoscope.

Summary of methods of diagnosis. The safe routine in the examination of a suspected stone case may be divided into two parts: I, The gen-

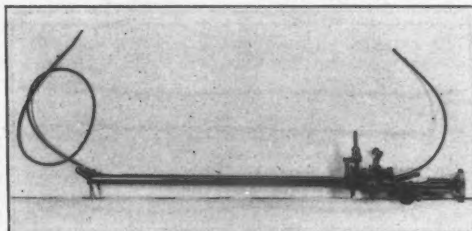


Fig. 2.

eral investigation and, II, The use of special methods of examination. Of importance in the general investigation is radiography of both ureters, both kidneys and bladder, a careful study of the urine, *before instrumentation*, in order to determine particularly regarding blood and pus and an estimation of the total renal function by phenosulphonphthalein which will act as a control and guide in the event a study of separate function is later indicated. If the findings after such a general study are all negative,—neither blood nor pus in

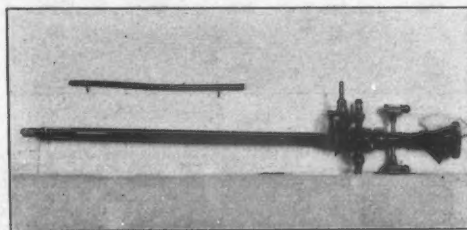


Fig. 3.

the urine, renal function normal and radiographs negative,—further examination is not necessary. In other cases, with a typical history and urine, and a definite radiographic stone shadow, the diagnosis is clear-cut without further study. But in the majority of cases suspicious but indefinite general findings are obtained, and in these cases special methods of examination are required before stone can be excluded or affirmed. In the application of these special methods,—the wax-tipped catheter,

and ureterography,—each case will have to be studied individually and with respect to the previous general findings. The accuracy of the wax-tipped catheter and the ability to use it at the one sitting in conjunction with other cystoscopic methods warrants a greater appreciation of its value.

Fig. 1. A.—A, Diagrammatic Representation of X-ray picture, showing composite position of 39 ureteral stones (irrespective of side), 12 in abdominal segment, 22 in pelvic segment and 5 in vesical segment. I, Line perpendicular to mid-portion of ilium outside of which ureteral stones are never found. II, Common position, dotted line, of calcified glands in the pelvis. III, Common position, dotted line, of phleboliths. 1, Sacral-Wing portion of ureter, between x and x, in which stones are most frequently missed in the X-ray.

B.—Diagrammatic Representation of Ureter with four points of muscular constriction. 1st, uretero-pelvic constriction; 2nd, superior strait constriction; 3rd, vesical constriction, and 4th, ureteral orifice.

Fig. 2. Method of inserting cystoscope over catheter previously passed and curled up in the bladder. Difficulty arises from necessity of passing the beak of instrument along catheter in the urethra, and with the window of the instrument open.

Fig. 3. Soft rubber urethral catheter (No. 10) cut off so that one end projects just beyond the lever of the instrument and the other end slit up so that when the two slit ends are turned back they will hold the catheter in this position.

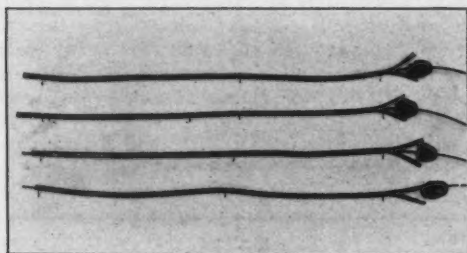


Fig. 4.

Fig. 4.—Rubber sheaths with wax-tipped catheters inside ready for use. In the lower two the catheters have been pushed through the sheaths so as to show their waxed tips (the method of examination for scratches, after the catheters have been inserted into the ureter and later withdrawn an inch or so in the sheath and then both drawn out of the cystoscope).

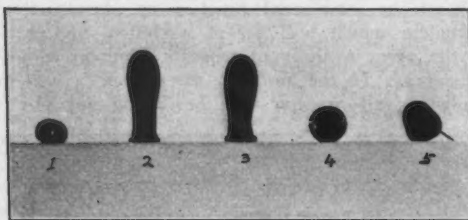


Fig. 5.

Fig. 5. Method of making rubber tip from small pipette bulb. (1) Large rubber tip with single perforation on the market which is too small for use with the rubber sheath. (2) Rubber pipette bulb, 3 cm. long. (3) Rubber pipette bulb cut in three equal parts. (4) First part placed inside of third and fastened with two silk sutures. (5) Bulb perforated with hot needle or pin.

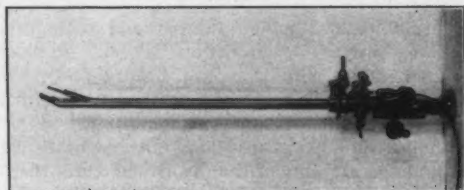


Fig. 6.

Fig. 6. Sheath and catheter as they appear after the

rubber tip has been adjusted over the slit ends of the sheath, the elevator of the instrument raised and the wax-tipped catheter pushed through.

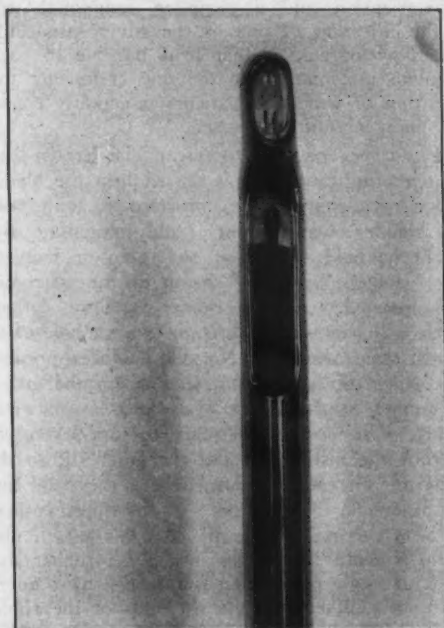


Fig. 7.

Fig. 7. Waxed tip pushed into the field just before elevating the sheath.



Fig. 8.

Fig. 8. Instrument case with five wax-tipped catheters in rubber sheaths ready for use, after sterilization.

Discussion.

Dr. M. Krotoszyner: The subject of this paper is of the utmost importance not only to the urologist but also to the general surgeon. There are several points brought out by Dr. Hinman which mark an advance in the diagnosis of renal calculi. The introduction of the wax-tipped catheter in the manner described in the paper, marks for that delicate proceeding a decided advantage. I personally have so far not been able to obtain in doubtful cases the desired diagnostic aid by the use of this method, but it looks to me as if the technic used by Dr. Hinman will be fraught with success. I also agree with the Doctor that radiographic exposures at different intervals after the ureter has been filled with a shadow-casting fluid may demonstrate a calculus which by ordinary radiography could not be demonstrated on the plate. I have been able, in a very stout man of 45, with a right-sided renal pyuria, to locate a stone by these means. Most important in the diagnosis of ureteral calculus is the point brought out by Dr. Hinman's paper, that a stone in the lower portion of the ureter might not be demonstrable on the plate because it is hidden by the wing of the sacrum. In this connection I wish to

report a case which will best illustrate the diagnostic importance of this point:

A man of 40 came under observation with the usual symptoms of nephrolithiasis: typical left-sided renal colic and blood and pus in the urine. Radiography showed, at first, a characteristic stone-shadow on the left side and a suspicious shadow in the region of the right kidney. Upon a second radiographic exposure a stone-shadow was visible on the left side alone, and these findings were corroborated by a third set of pictures. Upon exposure of the left kidney no stone was found, although the organ was split from pole to pole. About a week after nephrectomy, a hemorrhage from the operated kidney occurred, which was of such severity that the removal of the kidney was taken into consideration. Fortunately, though, the hemorrhage stopped gradually and the patient left the hospital about a month after the operation, with a closed wound. The patient reentered the hospital about two months later on account of a very severe renal colic on the right side. His urine was clouded by pus and blood; irregular septic temperature; at intervals pains in the right lumbar region, connected with chills and fever; X-ray plates negative for stone; cystoscopy showed a fairly normal bladder, ureter catheter on right side inhibited about 5 cm. from renal pelvis, no urine from right ureter. After two or three radiographic exposures, which were negative as far as stones were concerned, a little calculus-shadow appeared in the region of the right ureter above the brim of the pelvis. When on the next day a radiographic exposure was made with a shadow-casting ureteral catheter which, by the way, could be passed to the pelvis of the kidney, no stone-shadow was visible on the plate. A few days later the introduction of the ureter catheter was only feasible to about 2 or 3 cm. above the ureteral opening, which appeared to be congested and swollen. Finally, after several days of more suffering, chills and fever, the patient passed a stone corresponding in size and shape to the shadow which had been demonstrated on the plate above the brim of the pelvis.

Dr. W. P. Willard: I think one method that is worthy of trial is that of Cunningham—a ureteral catheter threaded with sound-conducting wire which is attached to a small ear phone. I saw a case demonstrated in which you could hear plainly the scratching against the stone. One point brought out which is interesting is the ease with which you can pass a stone in the ureter with the ureteral catheter. Being able to catheterize the ureter with no obstruction means nothing; on the other hand, you can attach no significance to the stoppage of the catheter in the ureter unless you have additional evidence. As far as blood in the urine is concerned, I do not know why we should consider that more significant of stone than of tuberculosis or other conditions.

Dr. A. B. Grosse: I certainly agree in toto with the remarks made by Dr. Hinman. The point that calculi in certain positions are not demonstrable by X-ray explains the remarks made by me on the floor of this Society in 1907, when I demonstrated a number of calculi cystoscopically removed, namely: "I am surprised at the relative frequency of cases which clinically and microscopically impress one as ureteral calculi which are not demonstrable by X-ray and for the symptoms of which I can find no other explanation." In one of these cases a few months later a calculus was passed.

The wax-tipped catheter in my hands has been useless, as I have used the Nitze cystoscope, but the method of the reader practically overcomes error from this source.

I might cite here a case of some interest. Unilateral spasmodic attacks of pain with pus and blood present in the urine at intervals. X-ray plates and numerous cystoscopic examinations and

ureteral catheterizations failed to elicit anything except that during the attacks unilateral showers of calcium oxylate were demonstrated. This condition has remained to date, with the exception of the attacks occurring less frequently.

Dr. Hinman, closing discussion: The interpretation of the scratches on the wax tip is really a refinement in diagnosis and of the greatest importance, and is only to be relied upon where the greatest attention is paid to detail. The least doubt in regard to the origin of a scratch destroys its value completely. Of course the tip can be examined as it enters the field of the cystoscope to see if scratches have been obtained in its passage through the instrument, but fine feathery scratches are often produced by stone which only a powerful hand lens will make visible. The wax-tipped catheter method, to be of positive value in the diagnosis of stone, must be of such technic as to absolutely preclude the possibility of extraneous scratches. Obviously the finding of a perfectly clean and smooth tip after passage up the ureter indicates by any method the absence of stone.

The significance of a clear urine is really very great. The finding of blood or pus is insignificant in itself, but the continued absence of blood upon repeated microscopic examination is very good evidence that stone is not present.

The case and the X-ray plates presented by Dr. Krotoszyner are very interesting and add additional proof of the idea that the wing of the sacrum is the important cause of the many failures of the X-ray to reveal ureteral stone. The first plate shows a shadow above the superior strait; the second plate, taken several days later, is negative; and the third plate shows the shadow below the pelvic brim, the stone in descending being missed over the sacral wing.

STATE SOCIETY

ANNUAL MEETING

1916

FRESNO

THIRD WEEK IN APRIL

DO NOT FORGET

PRELIMINARY REPORT ON THE FINDING OF ARSENIC IN THE CEREBROSPINAL FLUID FOLLOWING INTRAVENOUS ADMINISTRATION OF NEO-SALVARSAN.*

By J. HENRY BARBAT, M. D., San Francisco.

I wish first to call attention to the fact that an ordinary dose of neosalvarsan contains about 246 mgm. metallic arsenic, making in a man weighing 70 kilos, a proportion of 1 to 20,000 arsenic in the blood.

George Hall, in an article in the A. M. A. for April, states that arsenic has not been found in the cerebrospinal fluid after the administration of sodium arsenate, sodium cacodylate, salvarsan, and neosalvarsan, except in two cases where salvarsan was given in secondary lues. He does not state the amount of arsenic found.

J. J. Viton of Buenos Aires states that arsenic, or drugs generally, can be caused to pass into the cerebrospinal fluid by injecting irritants into the canal. He injects sera or a Sicard solution which contains cyanide of mercury.

Swift and Ellis inject 12 cc. of the blood serum which is taken one hour after the administration of a dose of salvarsan. Giving the 12 cc. full value, they cannot get more than a proportion of 1/100,000 arsenic in the cerebrospinal fluid.

It occurred to me that the reason that drugs do not pass from the blood serum into the cerebrospinal canal, is that it is already filled, and unless it is emptied, or the original contents caused to absorb, we can not expect to find our remedies passing through the choroid plexus or the ependymal cells. If we empty the canal at a time when the blood serum contains the maximum amount of the drug, the new fluid which is poured out should contain the maximum amount of the drug which will pass through the choroid plexus and ependymal cells.

In the case which I have to report, the patient was given a full dose of neosalvarsan, and 43 cc. of the cerebrospinal fluid was immediately withdrawn. This fluid was not examined for arsenic, but showed a very strong Lange reaction for paresis. Four days afterward he received another dose of neosalvarsan, and 30 cc. of the cerebrospinal fluid was immediately removed, of which a portion was submitted to Dr. Felix Lengfeld for examination; he reported 1/100,000 metallic arsenic.

My reason for using neosalvarsan was based on an article which appeared in a French journal, stating that neosalvarsan remains in the blood serum and does not enter the red cells, and remain in the red cells, as does the old salvarsan. Therefore, the neosalvarsan will pass in and out of the individual in three to four days, whereas old salvarsan will remain three or four weeks. Work is now being done to test the permeability of the meninges to iodine, mercury and arsenic.

I report this case so that more work may be done along these lines.

* Read before the San Francisco County Medical Society, October, 1915.

THE PANAMA-PACIFIC DENTAL CONGRESS.

By LEANDER VAN ORDEN, M. D., D. D. S.,
San Francisco.

The Panama-Pacific Dental Congress, held at the Auditorium in San Francisco from August 30th to September 8th, inclusive, was the culmination of work initiated five years before. It defeated the pessimists by holding attention to the close of the afternoon of the tenth day. Dr. Truman W. Brophy, whose opportunities to observe have been many, is quoted as having written that the Congress exceeded in scope and quality any that he had attended. Thirteen hundred were registered and three hundred more purchased memberships. But for the war a large foreign attendance might have been anticipated. Europe's sole delegate was Dr. Aguilar from Madrid. Australia, Cuba, Peru, Guatemala and San Salvador sent a few representatives. Of the one hundred and thirteen papers offered to the ten sections the larger percentage were read and, in many, lantern slides were used. One hundred and seventy chair-and-table demonstration clinics were given. The Dental Museum on the main floor contained transparencies, charts, anatomical specimens, casts and models—contributed from all parts of the world. The Tokyo Dental College sent enlarged drawings of photo-micrographs of tooth roots and their canals, and there was a copy of the Piltown skull. Over one thousand radiographic films and plates were arranged on racks and cleverly transilluminated, night and day, by electric bulbs, giving a rare opportunity for the study of the teeth and their socket tissues in health and disease.

The topic of focal infection, naturally, had a marked place in papers and discussions and Thomas B. Hartzell, of the Scientific Research Commission, National Dental Association, reported on team work of physicians, dentists and laboratory workers being done in the teaching hospital of the University of Minnesota, where a proportion of cases are referred for dental inspection and control, in the beginning of the treatment.

The papers and clinics on pyorrhea alveolaris attracted the possibly greater attention during the session and one evening was given up to a public lecture on the subject, with motion pictures.

In opening the discussion on "Arthritis Deformans Due to Pyorrhea Alveolaris and Faulty Bridge-work," Dr. Harry M. Sherman of San Francisco spoke of the need of co-operation between physicians and dentists in cases of that nature and, in a kind spirit, prophesied increasing fraternal relations between them. In this direction, it should be noted that some work, that may yet be recognized as epochal, was begun twenty years ago by D. D. Smith of Philadelphia by the thoroughgoing cleansing and polishing of the exposed tooth-surfaces through persistent monthly treatments. He noted recoveries from serious disorders in a sufficient number of his one hundred and twenty cases to justify their publication before societies and in journals. The revelations of roentgenography and recent bacteriological and clinical findings may bring to Dr. Smith's reports

the credit they seem to deserve. It is conceded that dental caries and pyorrheal socket conditions have their causation largely in dental uncleanness; it is also beginning to be understood that the enamel of the teeth of civilized beings is rarely smooth and that its lustre is only partially developed. There is, unfortunately, a superstitious fear on the part of many that scaling and polishing the teeth may injure the enamel. The reverse of this being the case, and having the teeth *slippery* being one of the most certain preventives of dental disease, with their sometimes serious sequelae; it may prove that physicians, through encouraging special and home care of the exposed tooth surfaces, and especially in the very young, will be able to add still another merit to their credit in the care of mankind.

EXTRACTS FROM IMPROMPTU TALK
AND RADIOGRAPH EXHIBIT. PAN-
AMA-PACIFIC DENTAL CONGRESS,
AUGUST-SEPTEMBER, 1915.

By JOSEF NOVITZKY, D. D. S., San Francisco.

We hear much of medication by way of the blood stream these days. Vaccines, emetin, mercury, almost anything is shoved into the blood stream for the cure of bone lesions.

This treatment, gentlemen, in the handling of pyorrhea is absolutely absurd. Treatment of this kind, even if it were correct, would belong to the field of medicine and not dentistry.

In many pyorrhea cases the intelligent use of the radiograph will show or indicate bone sepsis.

There is absolutely no question in my mind, but that the necrosed structure, whether it is in the jaws or in the upper air passages, may be contaminating the entire blood stream of the part. The blood supply does not reach the terminal parts in full volume, or it may be the actual means for the access of infection. The fact remains that such environment would be favorable for the development of suppurative conditions, even if they do not act as the direct cause.

It will readily be seen then, that the attempted cure of a pyorrhea in the anterior part of the mandible, associated with a necrosed area in the body of the bone, would not be along the lines of scaling the teeth, or the introduction of drugs, or vaccines into the blood stream.

What is indicated, is surgery, drainage, thorough ventilation, and immobilization—putting the teeth in splints and treating them as you would treat a fracture.

We are constantly looking for the elixir of youth, something that will clean up things at one fell swoop. You are not going to find it. A little intelligence is all that is indicated in pyorrhea cases. I do not believe that any certain organism can be blamed for the destruction. I have yet to find a pyorrhea case, one that constantly comes back to you for treatment, that is not intimately associated with sepsis some place in the jaw, or upper air passages. You can not get a permanent cure until you clean up the cause of it, be it what it may. If it is embolic from a septic center in jaw or air passages, causing metastatic

suppuration in remote parts, whether they are teeth afflicted with metastatic suppurative conditions, or whether it lodges in a joint and causes an arthritis, I repeat, it is absurd to treat the symptoms by way of the blood stream, without a removal, or attempted removal of the direct cause. I am not referring merely to those cases caused by obvious prosthetic irritation, be it in the form of a filling, crown, bridge or plate; it does not matter.

In every case, to attempt the eradication of the cause is the first thing to do, and in the name of all that is righteous give the part an opportunity of ridding itself of its natural filth and secretion.

Pyorrhea when once it reaches the acute stage with fibrous degeneration of the sockets and resorption of the alveolus, is practically hopeless as far as a cure is concerned. We cannot now immobilize the parts. The patient must have function; he must use his teeth. We know that it would be impossible to secure union in an infected fracture while it was swinging about at random. We have the same problem to contend with, in this advanced pyorrhea work.

We have seen the periosteum loosen and detach itself from the long bones of a horse after hard galloping on hard ground. Very much the same thing happens with the few teeth that are left in position, in advanced pyorrhea cases. The forces of occlusion being centered on a few teeth soon cause inflammatory changes in sockets and alveolus. We can not treat this the way it should be treated, by immobilization, etc.

Therefore, I say again, we must remove the cause of these conditions *before* they bring us to this extremity.

Coming back to the radiograph, this picture shows rarefaction many years after the extraction of dead teeth. This work as done at present should be considered malpractice.

The extraction of such teeth should be preceded by radiographs of them. If the plate shows any involvement of the process, or the jaw proper, the gums and periosteum should be lifted and retracted, the necrosed bone removed with the chisel, gouge, or curette and the teeth removed.

In many cases you will find the process discolored, with areas of disintegrated bone involving the apical region. If the tooth is a molar, the septum will frequently be involved. Immediately below this, the bone will be considerably thickened, the structure losing its cancellous appearance.

Now, how would it be possible to foretell all this, without the radiograph? If you proceed to operate without first knowing whether there is any jaw involvement, you might find after endless ripping around, that there were no pathological conditions present.

You will say, "Well, we have 'pulled' such teeth (or broken them off), for many years. The gums heal over, sometimes a little slowly; it is true, but in a few months' time the gums are pink and firm and we don't see any bad results."

Of course, you don't!

It usually takes some years before the patient makes very emphatic moves for assistance, and you

probably would not recognize the lesion (whatever it might be) as being in any way related to a piece of necrosed jaw, even if you knew the necrosed area to be present, which you probably would not.

The radiograph will fail to show anything in many of these old cases, due to the thickening which invariably takes place.

Some years after the extraction, an exploratory operation, if carefully done, under local anesthesia, will generally show mushy structure.

The extraction of the dead tooth will clean up the trouble in some cases and part of the trouble in others. But in a certain percentage of cases you are allowing the patient to fight out the balance of the disorder, and that is wrong. It is wrong if only one per cent. comes to harm through it, and I have reason to believe that the percentage is very much higher.

Here is a typical case, these three radiographs spread over five years' time:

The first one shows an area of rarefaction involving the dental canal. The second shows the case after operation, the entire body of the mandible being removed down to the dental nerve, which had long since disappeared in company with the blood vessels. The third plate, three years later, shows new bone with practically a normal size mandible. The canal of course is obliterated. This man was seen in consultation with Dr. Von der Lieth. His Wassermanns were all negative. He had absolutely no systemic taint that could be responsible for this trouble. There was no history of industrial poisons. He had been gone over very carefully by his medical advisers, with no definite findings. He had some dead molars extracted about eight months before the trouble began. The gums closed over the sockets slowly, but eventually the parts were firmly united. Some months after, he had a swelling over the inferior dental foramen, and punctured it with his finger nail. (The pus drained for many months from this foramen.) Pain was excessive, but finally went away, leaving his lower lip numb on one side.

There are several other cases here, emphasizing this point of retention after tooth extraction.

The inferior dental canal involvement, with drainage from the inferior dental foramen, is a very important point. This complication I have observed in numerous cases in more or less degree, both chronic and acute.

I first called attention to this fact in March of this year. Since then I have had the good fortune to come in contact with a few more of these dental canal cases, with inferior dental foramen drainage. This condition if kept in mind will explain some of the chronic and acute tonsillar inflammations. Septic matter may drain from infected teeth, through the root apices directly into the dental canal, thence backward to the inferior dental foramen directly into the tonsillar region. The molar root ends, in many cases, being so close to the dental canal that drainage from these teeth has direct access into the dental tube.

Many indurations of the parotid, submaxillary and sublingual regions, serious and otherwise, have

been demonstrated to be due to this drainage. The infectious matter does not always drain down the tissue planes of the neck, neither does it always follow along the mylohyoid groove to the submaxillary gland. Much depends on the amount of pus and gas pressure and also the rapidity with which the suppuration is initiated.

Parotid indurations have been traced to a septic dental canal.

Bell's Palsy, either alone, or in conjunction with induration of the glandular structures of the anterior part of the neck, floor of mouth and angle of the jaw, has been frequently observed. There is no doubt but that many of the Bell's Palsy cases (that is, the typical paralyses of the facial terminals) can be demonstrated to be due to septic irritation from a suppurating dental canal.

The periosteum of the ascending ramus is not very adherent. Pus assisted by a small amount of gas pressure, coupled with the movements of the muscles and ligaments covering the inner side of the ascending ramus, could well spread the infectious matter backward and upward as well as downward. There is no doubt that these movements would aggravate the extent of the trouble. Witness the efforts made by the body forces to localize the infection by sticking the inflamed structures fast, and the board-like rigidity of the masticatory muscles preventing their function and spread of the infection.

Bell's Palsy has been noted in some cases with an absence of induration, either of the Ludwig's angina type, or the milder form. The septic canal, however, was present. Paralysis was ushered in by exposure to cold. The fact remains that the septic jaw undoubtedly lowered the vitality of the part, if it did not cause the condition directly.

Whether or not the facial nerve has any connection with the inferior dental, remains to be worked out at some future time. Anesthesia of the facial has been observed in injecting the inferior dental at the mandibular foramen. This was very noticeable in a case where more than the ordinary amount of novocain solution was used (8 c.c.). Anesthesia of the mylohyoid, lingual, facial, and finally the inferior dental was secured. The dental nerve had probably become thickened from septic irritation or was actually inflamed and did not take up the solution readily. If in these injections, the needle is placed close to the posterior border of the ascending ramus, it would be close to that part of the facial trunk passing through the parotid gland. Anesthesia of the seventh nerve would then take place, independently of any connection with the inferior dental branch of the fifth. If the anesthetic is deposited at the mandibular foramen in amounts of from six to eight c.c. (2 c.c. is ample for the average inferior dental anesthesia) and through the looseness of the covering soft parts, the parotid region and the seventh nerve becomes infiltrated. It stands to reason that septic drainage from this foramen, in much less amount, would have the same opportunity for access to the facial trunk that our injections have in some instances.

The diagnosing of troublesome molars is not always easy, even with the help of the radiograph.

In some cases the radiograph shows the rarefaction in the cancellous bone. But in one case that I have in mind, the radiograph showed merely a thickening and blurring of root outline with apparently direct contact with the dental canal. The tooth was opened with the drill and found to be dead. A very small amount of greenish pus and some odor was noticeable; no destruction whatever appeared in the bone. The septic matter in this case was apparently taken up from the dental tube by the blood stream. Arthritic lesions of the finger joints were present. After tooth removal, the root membranes were found vital; the root ends, however, were discharging into the canal. There were no symptoms of trouble about the tooth or jaw.

In another one of the chronic cases, root apices were discharging into the canal. A little destruction was seen in the radiograph. The anterior cervical lymphatics were indurated. A myositis of muscles of shoulder and back of neck was present; also a slight buzzing in the ear of the affected side.

The number of septic upper molars discharging under the antral membrane is absolutely astounding; the membrane, in many cases, being intact; and even in those cases with direct perforation into the antrum, they are more apt to simulate a chronic course, than an acute suppuration. Many of these cases show little rarefaction, and as the pus is generated slowly and probably rapidly absorbed, the condition may escape notice for many years, there being no local evidence of its presence. The teeth certainly do not give evidence of any serious trouble.

I am very glad to state that Dr. Cryer and Dr. Brophy have both called attention to these antral conditions, remarking on the frequency with which these antral suppurations can be demonstrated to arise from septic teeth.

Statistics on the causes of antral infections, gathered by men like Chiari and Hajek, should be accepted with considerable conservatism. These men, though they are authorities in their own field, have undoubtedly overlooked many cases of obscure dental origin.

There is no doubt but that ideas as to the frequency of antral infections emanating from dental conditions will undergo a radical change in the near future.

BLOOD TRANSFUSION SIMPLIFIED.

By A. V. DORAN, M. D., Vallejo.

The apparatus for blood transfusion herein described will, I am sure, appeal to all as about the simplest one possible. It does away with all cumbersome and expensive tubes and syringes and is easily and quickly made.

All one needs is a wide-mouthed bottle of from six to sixteen ounces capacity, a rubber cork with two perforations, and glass tubing which fits the perforations rather snugly. Also plenty of the following mixture: paraffin 3 parts, white petrolatum 1 part.

A—Glass tubing drawn into a tip so as to enter

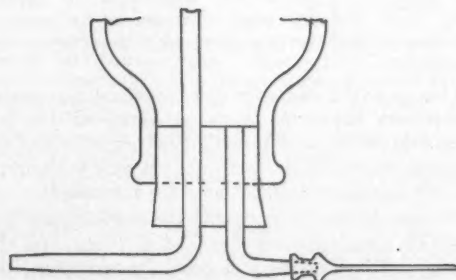
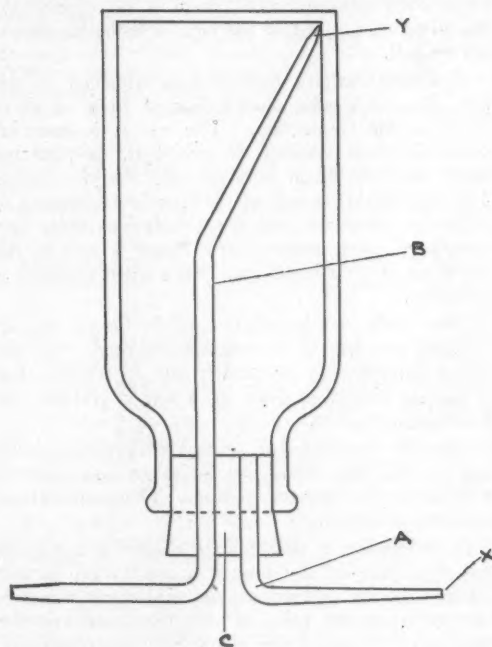
the vein easily. This tip can be made any shape desired, but should be long enough so that when the bottle is held over sideways the tip at X will be above the level of the tube B at Y. "A" should end at the inner level of the cork.

B—Glass tubing bent so that it will end at Y.

Procedure: The glass tubes are placed in the proper position in the cork and they, with the bottle, are cleaned with alcohol and then with ether and allowed to dry. They are then sterilized by dry heat. While still warm, the cork and tubes are immersed in the melted paraffin-petrolatum mixture, a quantity of which is poured into the bottle. They are both drained of excess coating. The cork with tubes attached is then quickly inserted into the mouth of the bottle and firmly tied to the neck of the bottle by a piece of tape.

This apparatus is allowed to cool, with the bottle right side up, and is then ready for use.

A number of these pieces of apparatus can be



SAME APPARATUS USED WITH INTRAVENOUS NEEDLE.

prepared and kept in a sterile receptacle, ready for use at any time.

TECHNIQUE.

A tourniquet is placed on the donor's upper arm just tight enough to cause venous congestion. A vein in the region of the elbow is exposed under local anesthesia for about one and one-half inches. This is tied off proximally and a Crile clamp applied distally. If an assistant is handy, a ligature placed about the vein distally, but not tied, can be used to cut off the blood supply when necessary by traction.

The vein is now transfixed, preferably with a cataract knife, and a slit made in it.

The vein of the recipient is prepared in the same way, except that no tourniquet is used, and the vein is tied distally.

The tip of the apparatus is now inserted into the vein of the donor towards the hand and the Crile clamp is removed or the traction stopped, and the blood will flow up into the bottle by venous pressure. When the necessary amount of blood has been obtained, the tip is withdrawn and the bottle tilted over sideways until there is no chance for the blood to run out of the tip. The bottle should not be full.

A double cautery bulb is now attached to the tube B. This tube should taper a little so as to facilitate the connection. The tip A is now inserted into the vein of the recipient, towards the heart, and the blood pumped into the circulation. The tip should be full of blood before inserting so as not to force air into the circulation; also, care should be taken that a little blood is left in the tip when it is withdrawn. Very little pressure is necessary.

The bottle can be marked off in C. C. and an accurate account of the amount is kept. Sodium citrate solution can be used if one so desires, as it is an easy matter to draw up a few c. c.'s into the bottle before using.

Tips can be ground to fit any intravenous needle and in this way blood can be taken and injected without the preliminary incisions. The open method is to be preferred.

In conclusion I would state that this apparatus was tried out on the human subject with perfect results. In the experiment, the subject on whom it was tried took the place of both the donor and the recipient. A vein in the elbow region was exposed for about three inches and ligated in the center. The distal half was used to represent the vein of the donor and the proximate half that of the recipient.

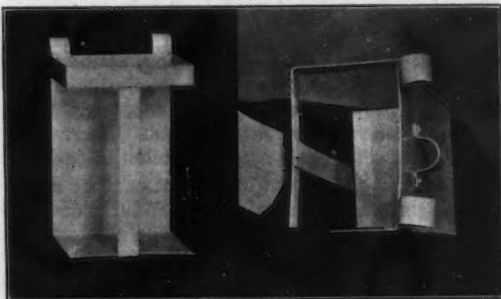
One hundred and fifty c. c. of blood was transfused from the distal to the proximal half in less than four minutes. A small quantity of blood remaining in the bottle after the tip was withdrawn did not coagulate until some time afterwards.

It was observed that having the subject open and close his hand hastened the flow of blood into the bottle, and having his arm hang down stopped the loss of blood from the tip when it was being introduced into the recipient vein.

A PAPER-BAG HOLDER FOR THE RECEPTION OF SOILED SURGICAL DRESSINGS.

By HARRY M. SHERMAN, A. M., M. D.,
F. A. C. S., San Francisco.

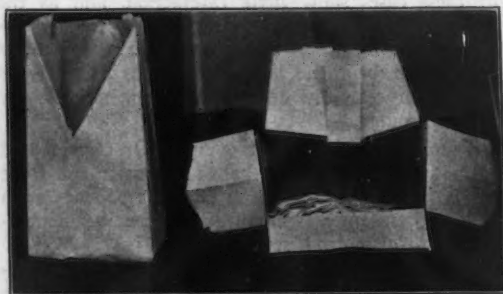
The cleanliness of the method of taking away for destruction soiled surgical dressings in paper bags was interfered with by the difficulty of getting the



Two views of the holder without the bags.

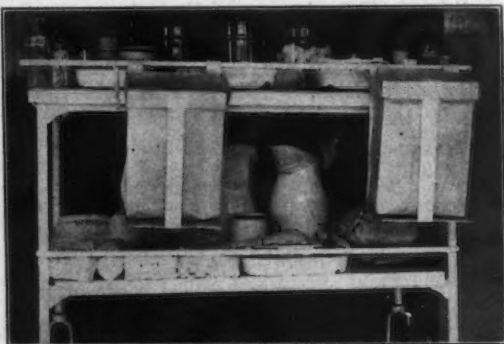
dressings into the bags—a difficulty that the nurse overcame by tearing the bag more or less open, so that it was frequently no bag at all, but only a sheet of paper.

The holder illustrated overcomes these difficul-



Preparation of bags to fit into holder, the flaps folding over the frame.

ties. Made to fit the bag, it holds its mouth properly open, and also supports the sides so that the bag may be easily and more completely filled.



Showing two holders and bags hanging on the side-rail of a dressing table.

The holder and its bag can stand on a table or on the floor or hang by the side of the dressing-stand or by the foot or side of the bed. The con-

struction is simple, and fully shown in the illustrations.

It was designed by Miss Esther Brown, Superintendent of Nurses at St. Luke's Hospital, and was made by Otto Meyer, the engineer of the hospital. It is so convenient and useful and cleanly that it has seemed worth while to report it.

BOOK REVIEWS

Practical Materia Medica and Prescription Writing With Illustrations. By Oscar W. Bethea, Philadelphia. F. A. Davis Co., Publisher, 1915. Price \$4.00.

In this book the details of prescription writing are discussed at some length, but the main body of the work consists of a collection of prescriptions, apparently taken from a few American works. These prescriptions are given in both the apothecaries and the metric system. The author does not discuss the value of the combinations of prescriptions he collects, and gives us no means of knowing whether the action of the main ingredient is intensified or lessened by such combination. For those who are trained in pharmacology and are looking for collections of prescriptions, the book may prove of aid. A. C. C.

Eye, Ear, Nose and Throat. The Practical Medical Series, 1915. Vol. 3. The Year Book Publishers, Chicago. Price \$1.50.

The 1915 tabloid of concentrated eye, ear and throat and nose knowledge is as practical and useful as its predecessors. It is also subject to the same criticism, namely, that the foreign literature is utterly neglected. This defect is not important as this phase of the subject is easily available in other publications. As an epitome of the advances in the American school its value can not be denied. Many of the Journals quoted are not easy of reference and the abstracts are therefore of considerable practical value.

There are no articles of such epoch-making importance that they deserve a separate review here. The book should always be within easy reach, not only of the specialist, but the general practitioner as well. H. H.

Diseases of the Ear, Nose and Throat. By Wendell Christopher Phillips, M. D. Third revised edition. Published by F. A. Davis Company, Philadelphia. Price \$6.00.

It is a pleasure to review such a thoroughly satisfactory book as this one, which is now issued in its third edition. For the purpose for which it is intended, viz.: that of a practical students' book and general work for specialists, the reviewer knows none so good. The arrangement of the subjects is logical and the treatment of them clear and devoid of almost all the useless perpetuation of discarded theories and operations which pad so many works. Of special value is the section on the Influence of General Diseases on the Ear, Nose and Throat. This is a matter that many special workers are apt to lose sight of but which should be constantly in mind. The book is well printed and adequately illustrated. It can be heartily recommended to specialists in this work, general practitioners and students, as being everything to be desired in such a volume. H. Y. McN.

Outlines of Internal Medicine. For the Use of Nurses. By Clifford Bailey Farr, A. M., M. D., Instructor in Medicine, University of Pennsylvania; Assistant Visiting Physician, Philadelphia General Hospital; Pathologist to the Presbyterian Hospital. 12mo., 408 pages, illus-

trated with 71 engravings and 5 plates. Cloth, \$2.00 net; Lea & Febiger, Publishers, Philadelphia and New York, 1915.

While this is a text-book for nurses and therefore not written to appeal to the medical man who is seeking new text-books, it is not out of place to recommend it most highly to those of us who are interested in the medical education of nurses and student nurses. Doctor Farr has made a very careful digest of the subject and the work, while concise, is eminently adequate for its purpose. G. H. T.

The Medical Clinics of Chicago. Volume I, Number II (September 1915). Octavo of 194 pages, 44 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bimonthly. Price per year, paper, \$8.00; cloth, \$12.00.

Contents.

Clinic of Dr. Isaac A. Abt: Tuberculosis Meningitis.

Contribution Wm. Allen Pusey: X-Ray and Epithelioma.

Clinic of Dr. Frederick Tice: Heart Disease in Pregnancy. Purpura Haemorrhagica. Infantile Marie's Pulmonary Osteo-arthritis.

Clinic of Dr. Walter W. Hamburger: Cardiac Neurosis. Auricular Fibrillation. Irregularities of the Pulse.

Clinic of Dr. Robert B. Preble: Case of Mitral Stenosis and Mitral Insufficiency in a Young Girl Without Subjective Symptoms. Splenomyelogenous Leukemia. Syphilitic Aortitis.

Clinic of Dr. Maurice L. Goodkind: Splenic Enlargement.

Clinic of Dr. Ralph C. Hamill: Two Cases of Locomotor Ataxia. Case of Primary Optic Atrophy.

Clinic of Dr. Chas. S. Williamson: Aortic Aneurysm. Tubercular Pleurisy. Tubercular Pleurisy following a Perirethral Abscess.

Clinic of Dr. Chas. L. Mix: Case of Uncomplicated Duodenal Ulcer. Carcinoma of the Stomach.

A Manual of the Practice of Medicine. By A. A. Stevens, A. M., M. D., Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania, Lecturer on Medicine in the University of Pennsylvania. Tenth Edition, Revised. 12mo. of 629 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Flexible leather, \$2.50 net.

The preface of the first edition of this manual should be added to this edition in large type. Without the warning words, "that it may serve as an outline of Practice of Medicine" this book can serve no definite purpose. The articles are so brief that they convey only the most meagre details of the subjects discussed. While the author claims to have added the latest knowledge in this edition, much of it is so abbreviated that the reader learns little from it.

In general the book covers the field of medicine fairly well, but certain subjects could be revised with advantage. The chapter on ductless glands is especially weak. The subject of arthritis in its various forms is not well discussed nor is any attempt made at classification according to the recently accepted scheme of Barker.

In reading the chapter on diseases of the heart, there appears to be too much of the old idea of classifying these affections according to the valves involved, rather than attempting to impress the reader with the importance of realizing that the particular form of valvulitis is but one sign of an endocardial involvement with its train of general symptoms.

It would seem therefore that this book might

lead one astray in the realm of medicine unless the reader is fairly conversant with the subjects he desires to study. As an outline it will serve its purpose. Further than that it can have no real value and it may be a source of trouble to the student of medicine. W. W. B.

Diseases of Nutrition and Infant Feeding. By John Lovett Morse, M. D., Professor of Pediatrics, Harvard Medical School, and Fritz B. Talbot, M. D., Instructor in Pediatrics, Harvard Medical School. Cloth, 8vo. \$2.50. Published September 8th.

This book is the best presentation of infant feeding in English. In fact it would be difficult to find a more masterly treatise in any language. The literature has been gleaned for facts chemical and physical, biological and clinical, but the result is no mere compilation, as many of these facts have been contributed to the fund of knowledge by the authors, whose erudition and experience enables them to deal critically with the vast mass of material the literature provides, to bring it into reasonable compass, to give unity to the valuable, and to reject the unworthy with clear authority. Talbot, who is responsible for those parts of the book that deal with metabolism and the physiology underlying the theory of feeding, is to be congratulated on having dealt with his subject informally and so clearly that every chapter holds the reader's interest.

The lucid style, the simple and forceful directions in the sections that deal with the practice of feeding and the treatment of nutritional disorders, brings the unexcelled teaching of Morse from the narrow confines of the class room to the needs of the larger body of students in active practice.

The authors are to be congratulated on the matter as well as the manner of this book, which is one that neither medical student nor practitioner can afford to be without. L. P.

Operative Gynecology. By Harry Sturgeon Crossen, M. D., F. A. C. S. Published by C. V. Mosby Co., St. Louis, 1915.

In this volume Dr Crossen has presented a work of great merit which is valuable to both the gynecologist and general surgeon. He states in the preface that he wishes to present the adaptation of a particular method of operation to suitable cases and in his discussions he gives a rational view of the indicated operation as called for by the underlying pathology. The illustrations, 770 in number, are particularly noteworthy as they clearly depict details of technic which aid in elucidating the text which is also clearly and concisely expressed. The chapter on retrodisplacement of the uterus ends with a well drawn discussion on indications calling for one or another of the accepted operations based on the pathology present in the pelvis. Likewise the chapter on prolapse of the uterus and bladder after a clear presentation of the operative technic sums up the indications for the special procedure advisable based on pathology and the period of life of the woman. The chapter on fibro-myoma is well handled, but that on carcinoma of the cervix deserves special consideration as it gives a fuller and clearer description of the radical operation as advanced by Wertheim and his co-workers than any other book, especially in reference to the technic of uterine management. Pelvic inflammation is treated in an interesting manner and gives the modern views on its management. A considerable space has been devoted to auto and heterotransplantation of ovaries and gives an exhaustive report of the experiments and literature on that theme. The concluding chapters on abdominal section and general technic contain good

suggestions which repay their perusal and the medico-legal reports are in keeping with the remainder of the work in interest and value. The whole book is compiled with great care and is a valuable addition to one's library as well as repaying one for the time spent in its careful reading. L. H. H.

A Text Book of Surgery for Students and Practitioners. By George Emerson Brewer, A. M., M. D., Professor of Surgery, College of Physicians and Surgeons, New York; Surgical Director, Presbyterian Hospital; Consulting Surgeon, Roosevelt Hospital, assisted by Adrian V. S. Lambert, M. D., Associate Professor of Surgery, Columbia University; Attending Surgeon, Presbyterian Hospital; and by members of the surgical teaching staff of Columbia University. Third edition, thoroughly revised and rewritten. Octavo, 1027 pages, with 500 engravings and 23 plates in colors and monochrome. Cloth, net, \$5.50. Lea & Febiger, Publishers, Philadelphia and New York, 1915.

This third edition has been thoroughly revised. Every chapter has been rewritten. Some new ones have been added. Radical changes have been made in the chapters on infections of the hand, diseases of the joints and goiter.

The author has received able assistance from his colleagues on the Surgical Staff of Columbia University. For this work they have been fully accredited.

The old conventional illustrations so often seen in books of this kind are conspicuous by their absence. There are 500 engravings and 23 colored plates which are well chosen. Most of these are taken from the author's own cases. There are a few that would be more valuable with an explanatory note. But in general the idea to be conveyed is so evident that the picture speaks for itself.

The chapter dealing with infections of the hand is especially worthy of comment. Here the anatomy, symptoms and treatment of infection are so clearly set forth that the reader has a helpful guide in one of the most difficult surgical problems.

There are a few typographical errors as "Intracheally" for "Intratracheally", but these are of minor importance.

Throughout the style is clear and concise. A proper balance has been maintained. So the book is very readable. The author is to be congratulated for gathering so much information in so small a space. No important points are neglected, nor is the book burdened with unnecessary details. The promise for a single volume text book for students and practitioners has been fulfilled.

J. P. P.

Pathogenic Micro-organisms. (Including Bacteria and Protozoa.) A Practical Manual for Students, Physicians and Health Officers. By William H. Park, M. D., Professor of Bacteriology and Hygiene in the University and Bellevue Hospital Medical College, and Director of the Bureau of Laboratories of the Department of Health, New York City, and Anna W. Williams, M. D., Assistant Director of the Bureau of Laboratories, New York City; Consulting Pathologist to the New York Infirmary for Women and Children. New (5th) edition, thoroughly revised. Octavo, 684 pages, with 210 illustrations and 9 full-page plates. Cloth, \$4.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1914.

It is not surprising that the authors of this book, who have for years directed the many activities of the Bureau of Laboratories of the Department of Health of New York City, should view the subject of Microbiology from the standpoint of application rather than from that of sys-

tematic description and classification, and it is their treatment of the subject from this point of view that makes this work distinctive, and particularly adapted as a text for the physician and those concerned in public health work. Since however a work of this scope often serves as a point of departure for a more detailed study of some particular subject, it seems to the reviewer, that the meagerness of bibliography impairs its value somewhat.

One finds the usual chapters devoted to general discussion of microbiology, bacteriological methods and infection and immunity, which are quite comprehensive considering the space allotted to their treatment. In the latter subjects controversy has been avoided. While this gives to the subject of immunity an unwarranted appearance of definiteness and simplicity, the desired end of "practical application" is served by not clouding the issue.

In the section dealing with the various pathogenic micro-organisms a number of the chapters deserve mention because of the authority with which the authors speak. Particularly good are those on Tuberculosis, Diphtheria, the Colontyphoid group, Amaeba, and Rabies. The final section devoted to the bacteriology of water, air, milk and soil; the purification of water; disposal of sewage; disinfection, etc., etc., is full of matter useful for the physician and is an excellent compendium on the subject, for health officers.

The book is well printed and contains not enough typographical errors to call for criticism.

H. E. F.

Syphilis as a Modern Problem. By William Allen Pusey, M. D., Professor of Dermatology in the University of Illinois. Price, cloth, 50 cents; paper, 25 cents. Pp. 129. Chicago: American Medical Association, 1915.

The following review appeared in *The Journal of the American Medical Association* for Sept. 18, 1915, p. 1051.

This book is a monograph reprinted from the Commemoration Volume issued by the American Medical Association "as a tribute to the medical sciences which made possible the building of the Panama Canal and the Panama Pacific Exposition."

The publication of this discussion of the present status of one of the so-called three great plagues—syphilis, tuberculosis and cancer—is opportune. Two decades ago tuberculosis, the fellow of syphilis in this triad of diseases, was as little understood by the everyday man as syphilis is to-day. In the comparatively brief interval of twenty years, a campaign of education and organized propaganda for the combating of consumption has transformed the situation. The forces of intelligent public opinion and of public and private funds, and the power of disinterested men and women have brought into being a great system of physical and educational aids for the tuberculous which have begun to realize their full possibilities. Against cancer our ignorance limits our capacity for effective control. Yet even in the case of cancer there are large endowments for study, and a consistent campaign for the better education of the public is under way.

Against syphilis, on the other hand, little or no social headway has been made. The confounding of the sanitary aspects of a communicable disease with questions of morals, and the effects of a traditional prudery have stifled advance in the social control of this disease. The United States is conspicuous in this backwardness. In strange contrast with this situation, medical knowledge of syphilis has advanced in the last decade with unparalleled rapidity. At the present time it is safe to rank the strategic position in regard to its sanitary control as equal to that for the control of malaria and yellow fever. In one direction, medicine holds syphilis in the hollow of its hand; two generations of intelligent attack could see it

reduced to the status of a sporadic infection. In the other direction, the unwillingness to act of the public, on whom help depends, has prevented all organized effort for the control of this disease. Syphilis is a sanitary problem, that it must and will be solved by society sooner or later is inevitable. Its importance cannot be exaggerated! It breeds misery and perpetuates it. It is a source of public cost, a drain on human efficiency, and a stumbling block in the progress of mortality and decency whose all-pervading influence is appreciated only by those who work with it all the time. Into this situation, Dr. Pusey's book projects itself with a peculiar force. It considers syphilis from the standpoint of its effect on society; not as a disease which medicine is called on to treat. The whole subject is broadly sketched; its course and its pathology are given in sufficient detail to allow the reader to get a mental picture of the disease. Preceding this there are three chapters on the history of syphilis, the most complete statement of this subject in English, which furnishes a unique historical perspective. The rest of the book concerns the study of the general problems of syphilis; the prognosis of syphilis; syphilis and marriage; the etiology of syphilis, and the prophylaxis of syphilis. In these chapters, such subjects as the relative frequency of tabes and paresis, the effect of syphilis on length of life, the time when the syphilitic may marry, the prevalence of syphilis, its comparative frequency in men and women, the question as to whether or not syphilis is on the increase, and syphilis and prostitution are considered. The whole book is a foundation for the last chapter—the prophylaxis of syphilis. Here the author shows how syphilology has finally arrived at a point where the prevention of syphilis is practicable by sanitary measures. He points out what these measures are, and so furnishes the strongest argument for the inauguration of an organized sanitary attack on this disease.

The work is eminently sane and without sensationalism or exaggeration. It does not affront with needless horrors, nor is it written in the spell-binding style of campaign literature. The book is fitted to serve as a guide to a sustained and effective interest in the problem on the part of intelligent readers. It is not a medical text-book, nor is it a primer. It is intended for the intelligent lay reader, but it may be read with equal profit by the intelligent physician. It considers syphilis from a detached point of view, from which point the physician ordinarily does not think of it. It is filled with facts which are carried through to legitimate conclusions, and from which are deduced practical suggestions, and is worthy of the thoughtful consideration of intelligent men and women.

PATRONIZE

THE

JOURNAL

ADVERTISERS

THE LODGE DOCTOR.*

[A reprint of this poem, evidently read some years ago, has been sent to the Journal recently, and here published with thanks to Dr. Bullard.—Ed.]

By F. D. BULLARD, M. D., Los Angeles, Cal.

When the thrifty-minded grocer
Mixes with his sugar sand,
When the money-chasing merchant
Fixes up a shoddy brand,
When the dollar-loving druggist
Palms his own concoction off,
If they slyly seek to smother
Qualms of conscience with a cough,
One excuse they're sure to offer,
Though a cheap and shop-worn cry:
"Since the other fellow does it,
To keep even so must I."

When the weaver interlaces
Strands of cotton in the silk,
When the farmer intermingles
Handy water in the milk,
When the sly and tricky jockey
Sells a man a balky horse,
If perchance from guilty conscience
Wells up in his heart remorse,
He will lull the new-born feeling
Fast asleep and softly sigh:
"Since the other fellow does it,
To keep even, so must I."

When the steerer shows a sucker
Where to play a quiet game,
When he cheats at playing poker
Till the jay forgets his name,
When the bar man ladles whisky
To the poor besotted fools,
When the landlord rents his houses
To impure and vice-soaked tools,
If the people raise objections,
This lame answer bears the brunt:
"But the other fellow'll do it
Just the same, sir, if I don't."

Now the poor lodge-ridden doctor
Pleads the same old weak excuse,
Though he knows that contract practice
Leads to more and more abuse,
For it steals his colleague's patients,
Makes himself to be a sneak,
On his back it puts this label:
"Taken for two cents a week!"
So when'er he makes a visit
To a brother of the lodge,
He must stultify his conscience
With the "other fellow" dodge.

If to this you raise objection
He will peep the old reply:
"Since the other fellow does it,
To keep even so must I."
Or perchance the answer varies,
He'll exclaim in accents blunt:
"But the other fellow'll do it
Just the same, sir, if I don't."
So I quaff to his confusion,
I will drink a proper toast—
Though perhaps such bad reflections
You may think were but a roast—

Here's to that foolish M.D.,
Who would for a dollar agree
To doctor a lodge
For a livelong year,
And never to dodge
Though the work be severe;
May he ever scamper
His patients to pamper
At all hours of the day and the night!
For hives and for phthisic
May he ever give physic
To people who call him for spite!

SOCIETY REPORTS

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of September, 1915, the following meetings were held:

Section on Surgery, Tuesday, September 7th.

1. The Standardization of Fracture Records, as formulated by the American Surgical Association and adopted by the American Medical Association. T. W. Huntington. Discussion by Harry M. Sherman.

General Meeting, Tuesday, September 14th.

1. The Treatment of Syphilis of the Central Nervous System, with especial reference to the administration of mercurialized serum intraspinally. J. M. Wolfsohn.

2. Notes on Syphilis of the Central Nervous System. T. G. Inman. Discussed by W. T. Cummins, R. B. Scheier, W. F. Schaller, H. J. Nichols, M. B. Lennon, W. E. Stevens, J. M. Wolfsohn and T. G. Inman.

3. Routine Radiological Demonstration of Gallstones. C. W. Lippman. Discussed by I. W. Thorne.

Eye, Ear, Nose and Throat Section, September 28th.

1. Traumatism of the Brain. Alanson Weeks. Demonstration of specimen by W. F. Schaller. Discussed by C. F. Welty, Emmet Rixford, H. C. Naffziger, Stanley Stillman, K. Pischel, H. B. Graham, and Alanson Weeks.

2. Operative Technic in Carcinoma of the Antrum. Stanley Stillman. Discussed by Emmet Rixford, H. B. Graham and Stanley Stillman.

3. Treatment of Fractures of the Superior Maxilla. Emmet Rixford. Discussed by K. Pischel, J. T. Watkins, Cullen F. Welty, Stanley Stillman and Emmet Rixford.

TULARE COUNTY.

It has occurred to us that we have been delinquent in reporting to the Secretary of the State Society the doings of the Tulare County Medical Society; lest it may be thought from this that our society is a "dead one" we will make report of the three meetings.

To begin with this society has had thirty-six members. Attendance at the meetings involves anywhere from ten to fifty miles travel; for instance, at the September meeting four of our five members at Dinuba traveled fifty miles to attend the meeting at Porterville. At our June meeting fifteen were present, at the September meeting sixteen and at the October meeting twenty-six.

The June meeting was held at Dinuba and Dr. J. R. Walker of Fresno was the guest of the society and presented a paper on "Inflammation and Infections of the Middle Ear with Treatment."

The September meeting was held at Porterville with a general discussion of the San Francisco session of the A. M. A. As reported by all who had attended the A. M. A. session the subject of "Preventive Medicine and Hygiene" seemed to have made the most impression and from this it was thought would come the greatest results.

The October meeting was held at Visalia and the society was so fortunate as to have present Dr. Stanley Stillman of San Francisco. Dr. Stillman's discussion of "Infected Wounds and Treatment" proved of very much interest to all and all were sincere in their thanks to Dr. Stillman for his visit.

A. W. PRESTON, Secretary.

* Read at the meeting of the Southern California Medical Society.

SACRAMENTO COUNTY.

Regular meeting, September 21, 1915, at the Hotel Sacramento, 8:45 p. m. Meeting called to order by Dr. J. B. Harris. Thirty-six members present.

Report of cases: Dr. H. D. Barnard reported a case of cavernous sinus thrombosis. Dr. G. E. Simmons reported three cases of fly borne typhoid. Dr. Diepenbrock reported a case of retrocecal appendix. Paper of the meeting then read by Dr. D. R. Powell. Discussed by Drs. W. E. Briggs, M. W. Haworth, G. A. Briggs, A. B. Diepenbrock, W. A. Beattie, J. B. Harris; closed by Dr. D. R. Powell. Report of Board of Directors. Application of Dr. Lay of Jackson, Cal., read. Moved by Dr. W. E. Briggs and seconded by Dr. J. H. Parkinson, that this society invite the Northern District Medical Society to meet in Sacramento in November next. Adjourned at 10:10 p. m. F. F. GUNDRUM, Sec'y-Treas.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

THE SALVARSAN SITUATION.

Telegraphic advice under date of September 21st states that Salvarsan supplies in New York are exhausted.

In a subsequent letter from the Farbwerke-Hoechst Company, under date of October 4th, we are informed that, contrary to newspaper reports, no shipments have as yet been released and no immediate action seems to be in sight.

The situation is summed up quite fully in the letter addressed by President Herman A. Metz of the Farbwerke-Hoechst Company to Dr. Thomas H. Norton, Department of Commerce, New York City. We quote as follows:

"The articles in question are Salvarsan ('606') and Neosalvarsan, both made, as you know, by Hoechst Farbwerke under patents of recent issue. Under the English patent law, at least part of the process was carried out in England, and when the war began England took over the German plants and is now running them as Trustee. England also canceled the German rights in these patents, and granted licenses under them to English firms. In France there is no patent law covering articles used in connection with the public health, but, naturally, under the patent laws of this country, the product made in France cannot be imported without violating the patent and treaty rights of the German holders of the American patent.

"For both products mentioned, I have orders in hand from the United States Government for the Army, Navy, Public Health Service, Panama Canal Commission, and Department of the Interior Hospital for Insane. I also have orders from nearly every Army post, penitentiary, and private and pub-

lic hospital in every State in the Union. I took the orders from the government 'subject to permission by the German government to allow exportation'—the goods to be sent by parcel post, as shipment *via* freight, of course, is impossible. Upon my solicitation, a release from the embargo was granted to the manufacturers by the German government. The goods were sent to Rotterdam to be mailed from there *via* parcel post to the United States. The Dutch postoffice authorities refused to accept the goods without the permission of the British Ambassador. After cables had been sent me from both Holland and Sweden with this information, of which, by the way, I had no knowledge until confirmation by mail reached me, owing to the cancellation of the messages by the censors of the cable lines, I immediately sent Dr. Baketel, manager of my drug department, to Rotterdam with instructions to put into his trunk and bring over as personal baggage the goods which were bought and paid for by me, belonged to me, and in large part were intended for delivery to the United States government.

"This looked easy, but on arrival the doctor was informed that it would be almost impossible for him even to take himself aboard a Dutch steamer without permission from the British Ambassador. He could not put anything into his pocket, much less into his trunk. The Commercial Advertiser of the American Consulate advised him to go to London and place the facts before the British Admiralty. He went to London, and the next cable stated that if the United States government would instruct the American Embassy at London to ask that the goods be released 'on humanitarian grounds,' permission would be given. This cable also informed me that the condition that goods cannot be obtained elsewhere than in Germany would not be construed to cover goods now made in England under patents canceled since the war began.

"The State Department, after inquiry, cabled to the American Embassy at London, asking the release of these specific goods in Rotterdam. Another week passed, and another cable came. This one stated that England would first have to secure the consent of the French government. After waiting four or five days, a cable came which suggested that the State Department should cable to Ambassador Sharp at Paris, asking him to facilitate the permit, as otherwise it might take a month. I went to Washington, and at my solicitation a cablegram was sent to Ambassador Sharp, asking him to request release by the French government. While this cable was being sent, another one was received by me. It stated that the French claimed that these goods were obtainable in France, and, therefore, would not consent to their release.

"Now, let us assume that the French product is as good as the German, which I do not take for granted and which has not been proven, but, even though it were, the French have no patent rights here. The German product is covered by patent issued under treaty between the United States and Germany, which grants German manufacturers the exclusive right to market and sell their product in

this country; and I am bound by contract to handle their product and prosecute all infringements. In the meantime, the goods I paid for are in Rotterdam, and I see by the newspapers that England has agreed that medicinal products 'not made elsewhere' can come out of Germany. I don't believe you can name a single German patented product that is not made somewhere else on a more or less large scale. At any rate, many of such products are patented in this country, and those 'made elsewhere' cannot be sold here under our laws; nor do the Germans under the treaty have to manufacture here any more than American patentees must carry out their processes in Germany.

"This is the situation so far as the release of goods, requested by the American government and for government purposes, is concerned. Just when the stuff is coming I don't know, though our government maintains that we have a perfect right under international law to do business with neutral countries or even with countries that may be fighting, and has written several notes on the subject. Moreover, this situation affects matters relating to public health and the direct welfare of individuals. Germany is willing to give us the stuff; we need it, we have a perfect right to get it, but still are forced to do without it."

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Pantopon (Pantopium hydrochloricum).—A mixture of the hydrochlorides of the alkaloids of opium, containing 50 per cent. of anhydrous morphine hydrochloride. It produces essentially the effects of opium, but, being devoid of opium extractives, may be used for hypodermic administration. It is probably absorbed more promptly and is free from the nauseant odor and taste of ordinary opium preparations. Pantopon (pantopium hydrochloricum) is also supplied as Pantopon (pantopium hydrochloricum) tablets 0.01 gm., Pantopon (pantopium hydrochloricum) hypodermic tablets 0.02 gm., and Pantopon (pantopium hydrochloricum) ampules 0.02 gm. The Hoffmann-La Roche Chemical Works, New York City (Jour. A. M. A., Sept. 4, 1915, p. 877).

Larosan, Roche.—Calcium caseinate, containing calcium equivalent to 2.5 per cent. calcium oxide. In the treatment of diarrheas of infants a useful food is that made from the curd of milk and diluted buttermilk. The preparation of such a mixture of proper composition being difficult to prepare in a private home, Larosan, Roche is offered as a substitute. The Hoffmann-La Roche Chemical Works, New York City (Jour. A. M. A., Sept. 4, 1915, p. 877).

Betanaphthol Benzoate, Merck.—A non-proprietary preparation of betanaphthol benzoate (see New and Nonofficial Remedies, 1915, p. 210). Merck and Co., New York (Jour. A. M. A., Sept. 4, 1915, p. 877).

Desiccated Pineal Gland, Armour.—The pineal gland of normal cattle, freed from connective and other tissues, dried and powdered. There is some evidence that there is a relation between the pineal gland and some processes of development and growth. The therapeutic use of the gland is in the experimental stage. Pineal gland, Armour, is also

supplied as Pineal Gland Tablets, Armour, 1/20 gr. Armour and Company, Chicago (Jour. A. M. A., Sept. 25, 1915, p. 1111).

Scopolamine Stabile, Roche. An aqueous solution of pure scopolamine hydrobromide protected against decomposition by the addition of 10 per cent. of mannite. It has the properties of scopolamine hydrobromide, U. S. P. It is supplied in ampules, each containing 1.2 cc. (1 cc. contains 0.0003 gm. scopolamine hydrobromide). The Hoffmann-La Roche Chemical Works, New York (Jour. A. M. A., Sept. 25, 1915, p. 1111).

Coagulen, Ciba.—An extract said to be prepared from blood-platelets and to contain thromboplastic substance mixed with lactose, 1 gm. representing 20 gm. dried blood. It is said to act as a hemostatic and to be useful in the treatment of local and certain internal hemorrhages. Solutions of coagulen, Ciba, are used locally, intramuscularly and intravenously. A. Klipstein and Co., New York (Jour. A. M. A., Sept. 25, 1915, p. 1111).

Calol Liquid Petrolatum, Heavy.—A non-proprietary brand of liquid petrolatum, U. S. P., said to be derived from California petroleum and to consist essentially of hydrocarbons of the naphthene series. It is colorless, non-fluorescent and practically odorless and tasteless. Its specific gravity is 0.886 to 0.892 at 15 C. Standard Oil Company of California, San Francisco, Cal. (Jour. A. M. A., Sept. 25, 1915, p. 1111).

Tetanus Antitoxin for Human Use.—Marketed in syringes containing 1,500, 3,000 and 5,000 units each. Cutter Laboratory, Berkeley, Cal.

Diphtheria Antitoxin, Globulin.—Marketed in syringes containing 2,000, 3,000, 4,000, 5,000 and 10,000 units each. Cutter Laboratory, Berkeley, Cal.

Anti-Pneumococcic Serum. Marketed in syringes containing 10 cc. Cutter Laboratory, Berkeley, Cal.

Normal Serum (from the Horse).—Marketed in syringes containing 10 cc. Cutter Laboratory, Berkeley, Cal. (Jour. A. M. A., Sept. 25, 1915, p. 1111).

Items of Interest.

Strychnine Not a Cardiac Tonic.—As a result of investigations carried out in the Massachusetts General Hospital at Boston, Dr. L. H. Newburgh concludes that there is no pharmacologic or clinical evidence which justifies the use of strychnine in the treatment of acute or chronic heart failure (Jour. A. M. A., Sept. 18, 1915, p. 1032).

Williams' Syrup of Malt.—The Council on Pharmacy and Chemistry reports that Williams' Syrup of Malt is ineligible for New and Nonofficial Remedies because it is an official article marketed under an unofficial title; because unwarranted therapeutic claims are made for it, and because the claims made are apt to lead the public to depend on it as a curative agent in serious diseases (Jour. A. M. A., Sept. 4, 1915, p. 895).

Micajah's Uterine Wafers and Piso's Tablets.—The A. M. A. Chemical Laboratory has determined that Micajah's Uterine Wafers and Piso's Tablets are practically identical—a mixture of dried alum, borax and boric acid. While Micajah's Uterine Wafers are advertised to the medical profession, Piso's Tablets are a "patent medicine." The claims made to the public for Piso's Tablets are silly and mischievous—but no more so than those made to the medical profession for Micajah's Uterine Wafers (Jour. A. M. A., Sept. 25, 1915, p. 1128).

THE FORTUNE OF A NOSTRUM MAN.

The estate of the late Mr. Eno, the proprietor of Eno's fruit salts, is valued at \$8,000,000. This immense fortune has been made out of an aperient consisting of sodium bicarbonate, tartaric acid and citric acid which is extensively advertised, though not in a very flagrant manner. It claimed to be

"health-giving, pleasant, cooling, refreshing, gentle and safe in its action"; "keeps the blood pure." Mr. Eno left large sums to hospitals and other benevolent institutions. His fortune is by far the largest left by a nostrum man and the largest left by any "patent medicine" proprietor (as distinct from those combining therewith the manufacture of patent foods). Among these may be mentioned the following sums: Senator the Hon. George Taylor Fulford, proprietor of Dr. Williams' pink pills (a Canadian), \$6,500,000; Mr. Alfred B. Scott, of Scott's emulsion, \$850,000; Mr. George Handyside, of Handyside's consumption cure, \$700,000; Mr. Robert Dyer Commans, of Areca nut tooth paste, \$550,000; Mr. Walter Tom Owbridge, of Owbridge's lung tonic, \$550,000; Mr. Thomas Beecham, of Beecham's pills, \$400,000.—Journal A. M. A.

AN ENGLISH SUCCESSOR TO A GERMAN NOSTRUM.

In a previous letter (The Journal, Dec. 12, 1914, p. 2145), I described the attempt of a British company to capture the business of sanotogen, as trading in this German nostrum has been prohibited since the outbreak of war. In their latest circular, the company again endeavors to exploit the strong anti-German feeling prevailing in this country as follows: "We are surely right in endeavoring to secure the trade which has hitherto been done by a German, and it is not unfair to take all the advantage we can of the indignation which all Britishers, and indeed all humanity, are feeling against an enemy who does not scruple to use deathly asphyxiating gases to destroy our gallant soldiers and who looks callously on at our helpless drowning." The following claims are put forward:

"1. Sanaphos is a milk product containing all the constituents of milk with a reduction of fat to suit plethoric patients. It is obtained by a physical process, not a chemical one, and at such a low temperature that the vitality of the original milk due to vitamins and enzymes is retained. 2. This is the best basis for administering organic phosphates so as to secure the highest efficiency of a food and nerve tonic. 3. The less foods in their natural state are interfered with by chemical processes, the better are they adapted for highly nutritive purposes, and this is especially the case with milk. 4. Attempts have been made to establish that casein is the most important constituent of milk; this is an obvious fallacy, because on this basis infants would do well on cheese. Casein is a chemically separated substance derived from milk, and it does not supply the body's complete needs. 5. Clinical evidence extending now for over six months abundantly supports the view that sanaphos is the most attractive and effective recuperator of nerve and energy. Its uniquely favorable effect in sleeplessness, cured without drugs, bears remarkable witness to this."

It is remarkable that the circular containing these absurd claims, quite on the old lines, is addressed not to the public, but to physicians. The motto of the nostrum man is evidently toujours l'audace.

THE SO-CALLED NEW ANTISEPTIC.

Recently the newspapers have contained announcements of a new antiseptic or germicide that has proved, or is to prove, of great value in the treatment of the wounded in the present war. Credit for its discovery is given to Drs. Carrel and Dakin.

The antiseptic referred to is that which Dr. Dakin of the Herter Laboratory, New York—now serving as bacteriologist in a war hospital at Compiègne in France—announced in a paper read before the Académie des sciences in Paris. It is

made by the well-known process of adding sodium carbonate to a solution of chlorinated lime. The mixture is thoroughly shaken, and after half an hour the liquid is siphoned off from the precipitate of calcium carbonate and filtered through cotton. To this clear liquid, sufficient boric acid is added to make the preparation neutral or acid, the amount required being determined by titration with phenolphthalein. Such a solution was found to kill staphylococci in two hours.

According to the British Medical Journal, about a year ago Professor Cohen, of the University of Leeds, England, entered into communication with Dr. Dakin, a former student, regarding research on antiseptics for surgical use. The arrangement was that the substances elaborated by Professor Cohen should be tested bacteriologically by Dr. Dakin, and that the most promising should be tried clinically by Dr. Carrel.

At about the same time, under the auspices of an English medical research committee, a similar research by Prof. Lorrain Smith, with the assistance of Professor Drennan of the University of Otago, N. Z., Dr. Rettie, a chemical expert, and Lieutenant W. Campbell of the British army medical corps, was undertaken in the University of Edinburgh. Their results were reported in the British Medical Journal. The substance which they prepared was made by rubbing up chlorinated lime to a fine powder and mixing it with an equal weight of powdered boric acid. The ideal antiseptic for the field, they concluded, was a dry powder to be applied direct, which, it was believed, has advantage over a solution because it is more portable, and water is often not procurable.

Chlorinated lime, the basis of the so-called new antiseptic preparation, is well known as a powerful disinfectant. Its alkalinity, however, makes it destructive to living tissues except in dilute solution. The same may be said of solution of chlorinated potash (Javelle water), which has been largely used by French surgeons in the present war, and of solution of chlorinated soda (Labarraque's solution). The advantage claimed for the new mixture is that the preparation, being practically neutral and unirritating to the tissues, may be applied in greater strength than that in which it is possible to use chlorinated lime, Javelle water or Labarraque's solution. Experiments indicate also that the germicidal activity of chlorinated lime is increased by such treatment of the calcium hypochlorite as has been described. Such increase in germicidal activity is generally attributed to the liberation of hypochlorous acid. It has been found that the activity of ordinary bleaching powder is greatly increased by passing through it carbonic acid gas. Any other acid, as boric acid, will do as well. From the chemical point of view, therefore, there is nothing new in this method. That the practical application of such a mixture is not wholly new is proved by an earlier article published by Vincent. He suggested the application to ulcerating and gangrenous wounds of a mixture of chlorinated lime and boric acid.—Journal A. M. A.

CONTROLLING CANCER IN ENGLAND.

Portsmouth was the first municipality in England to undertake a public educational campaign for the control of cancer and it would appear that the measures adopted in 1913 are already taking effect. The annual report of the Medical Officer of Health, Dr. A. Mearns Fraser, for the year 1914, which has just been received, states that there were only 197 deaths from cancer in Portsmouth last year as compared with 230 in 1913. This decrease, which occurs in the face of an increase of population, is hailed with satisfaction by the Portsmouth sanitary authorities as justifying their efforts to reduce the cancer death rate by persuading persons who are attacked with this

disease to avoid delay and to seek treatment before it is too late for more than palliative measures. Dr. Fraser reports that from statements made to him by local men the publication of circulars and newspaper articles by the Health Department has been instrumental in inducing a number of persons suffering from early operable cancer to secure treatment, the result of which it is hoped will be permanent.

When the educational measures were put in force two years ago, the cancer death rate of the city had for a long period been increasing. Twenty years ago the average death rate from cancer in Portsmouth was 6.79 per 10,000 of the population, but in 1913 it had risen to 9.16 per 10,000. In that year the total number of deaths was only 34 less than were caused by tuberculosis. While admitting that the increase in the recorded cancer death rate might have been caused in part by improved methods of diagnosis, the Health Committee of the Portsmouth Town Council nevertheless believed that the present number of deaths was unnecessarily large, and they felt it incumbent to adopt whatever measures might lessen the ravages of the disease. The initiative came from Dr. Charles P. Childe, senior surgeon of the Royal Portsmouth Hospital and a member of the Health Committee of the Town Council. As early as 1906 Dr. Childe in his book, "The Control of the Scourge," had given to the public the benefit of his extended experience with cancer. At his suggestion the Portsmouth authorities in 1913 began a campaign of public education under the official auspices of the Health Department. The methods adopted included the monthly publication in the local newspapers of articles regarding cancer and the printing and distribution of a Health Department circular on the subject. Arrangements were made for periodical lectures to midwives, nurses, and to those engaged in social work in Portsmouth. The Health Department further made provision for free microscopical examinations and reports on suspected cancerous growths in order to assist physicians in immediate diagnosis in the case of patients who were unable to pay for such laboratory service. The experience of the Portsmouth authorities had been that by far the majority of patients who presented themselves at hospitals suffering from cancer exhibited the disease in a stage too advanced to be cured. It was held that the reason for this delay in seeking advice was not as a rule because patients feared operation, but because they were ignorant that they were suffering from anything serious until they began to suffer pain. The fact that cancer at its onset is almost always painless should be widely realized in order that the public may learn the importance of other symptoms which will enable them to recognize the disease in the early stages when it can nearly always be successfully removed by competent surgery.

MEASLES AND WHOOPING-COUGH GREAT FOES OF CHILDREN.

With the opening of the public schools come reports to the California State Board of Health of cases of whooping-cough, measles, scarlet fever and diphtheria. Most people regard scarlet fever and diphtheria with a certain degree of alarm, but measles and whooping-cough are generally regarded as necessities; or at least, as being of minor importance.

Most fatal cases of these diseases occur in children under five years of age, and parents who deliberately expose their children to cases of measles and whooping-cough, in order that they may "catch them and have them over with," are taking a very great risk. During the first five years of a child's life special care should be taken

to protect him from such exposures. By deferring these diseases to later childhood, the death rate may be greatly lowered.

The chief difficulty in the control of these diseases lies in the fact that they are more "catching" in the early stages, than later. For this reason, any cough or cold in a child just entering school should be regarded with more or less suspicion, the case should be closely watched, and the child isolated, so that if it proves to be measles or whooping-cough, contact with other children may be prevented.

During 1914, there were 8,852 cases of measles reported to the California State Board of Health, with 150 deaths; and during the same year, 2,595 cases of whooping-cough were reported, with 305 deaths. The tragedy does not lie in deaths alone, however, for the complications that often follow are what give these diseases their deadly character. Some health authorities say that tuberculosis follows measles and whooping-cough more often than any other of the communicable diseases. However this may be, the wise parent exercises every precaution to protect the child from these diseases, until as late a period in childhood as may be possible.

The control of these diseases is largely in the hands of parents. Every case should be isolated as soon as recognized and report made to the local health officer.

To admit knowingly, a child suffering from either of these diseases, to the schools or picture shows or to any public gathering, is a direct offense against all public health regulations.

RURAL CREDITS.

At the Rural Credits Conference held on the Panama-Pacific International Exposition grounds September 21, it was decided to form a state organization to work for the adoption of Senate Constitutional Amendment No. 17, authorizing legislation in regard to rural credits and to co-operate with the State Commission recently appointed and with other agencies, to secure for California an adequate system of rural credits adapted to our conditions.

Frank H. Gould of San Francisco was named as chairman of the temporary organization, and A. L. Cowell, secretary of the San Joaquin Valley Water Problem Association, was selected as secretary. Headquarters have been established at Room 264 Mills Building, and an active campaign in behalf of the proposed constitutional amendment is being prosecuted pending completion of the permanent organization. Letters from persons interested in rural credits with suggestions as to methods of procedure are solicited by the committee.

The amendment will be voted on at the special state election to be held October 26.

The movement for a system of rural credits in California is in line with the general sentiment of the nation that measures should be taken to give to the farmers, as favorable opportunities for financing their operations as are now open to the business men of the cities. The high rate of interest charged farmers retards rural development, besides adding an unnecessary burden to the already over-capitalized agriculture of the country, a burden which is passed along to all consumers of food products in the shape of higher prices. Therefore any plan that would remove some of the restrictions which now hamper the farmers of California should be of benefit to all the people of the state.

The defects of the present credit system emphasize further the fact that the need is not merely to provide cheaper money for agricultural

development, but to make it possible for the farmer to obtain loans in many cases where credit is not now available even on good security at any price.

To make a thorough investigation of the subject, the governor has appointed a commission of five members, consisting of Dr. Elwood Mead, professor of Rural Institutions, University of California, and for many years in active charge of rural credits and land settlement operations in Australia; Dr. David P. Barrows, dean of the Faculties of the University of California; Col. Harris Weinstock, member of the Industrial Accident Commission of California, and one of the representatives of this state on the Commission on Rural Credits and Agricultural Finance that made a study tour of Europe in 1913; State Senator William E. Brown of Los Angeles, and Mortimer Fleishhacker, a prominent financier of San Francisco. This commission will prepare recommendations to be submitted to the next legislature.

The constitution as it at present exists makes it impossible for the legislature to enact a law providing for an effective rural credits system. The purpose of Constitutional Amendment No. 17 is to untie the hands of the legislators so as to enable them to enact a law that will be constitutional as well as effective. The amendment as presented is sufficient to permit the enactment of a practical and efficient rural credits law.

FRANK H. GOULD, Chairman.

A. L. COWELL, Secretary.

Room 264 Mills Building, San Francisco, Cal.

EDUCATION AT THE EXPOSITION.

The Palace of Education at the Exposition continues to be the center of educational conferences. The Public Health exhibits, particularly those of the U. S. Public Health Service and the Health Department of Pennsylvania, have drawn crowds of interested observers.

The attendance in the section of the California Association for the Study and Prevention of Tuberculosis last month was over 15,000.

The exhibit has carried home a message to two large groups of people:

1. It has made the Californians conscious of their own high death-rate from the "white plague," because one-fourth of all the deaths in this State are from tuberculosis. Thirty per cent. of these deaths are among native born, and it has made the Californians realize their own needs for adequate care for people in the first stages of the disease. It has also made the visitors conscious of the great burden imposed upon California by the non-resident indigent patient. Hundreds of visitors have commented on it, and steps are already well on foot for the introduction of federal legislation.

The new law in this State—to raise the standard of the tuberculosis wards in county hospitals—is receiving serious consideration in a number of counties.

The open-air school movement continues to grow. Five years ago only \$10,000 was spent in open-air schools. Last year \$300,000 was the total in the United States. These schools are more than open-window rooms; they are not only intended for the child suffering from tuberculosis, but for the child whose attendance is irregular through sickness, and who is not strong enough to be in a regular class-room. Rest and special food is given these children.

Last year a boy who had enjoyed the opportunity of attending an open-air school in Chicago, came in one morning with another little boy, who wished to be a candidate for admittance into

the school. "How sick does a feller have to be before he could get in this here school?" he asked the school doctor. This, in itself, ought to make us sit up and take notice of the large group of children who have not the physical strength to keep up in a regular school room, and who need the fresh air, sunshine and rest that the open-air school provides.

The tuberculosis death-rate is highest among laborers; nearly 75 per cent. of the deaths occur in families where the income is less than \$1000 a year. This proves the necessity for adequate county hospital facilities, so that care and treatment may be given them.

Los Angeles is now running eight clinics a week, with 12 nurses soon to be put in the field. San Francisco, through its Tuberculosis Association, has asked for \$40,000 for a tuberculosis division in the health department. Stockton has a splendid new dispensary, as has San Diego. Each has a nurse to look after patients. Pasadena will soon have a new dispensary. Riverside, through its committee on tuberculosis, is to have an open-air school for children who are not well enough to be in a regular class-room. In another school some intensive work in general public work will be given the children and their parents.

Meanwhile, in New York the movement for a clean bill of health has extended into a field that has long been neglected. The City Board of Health has notified the 4500 hotels and restaurants, with their 90,000 handlers of food, that all cooks and waiters must be supplied with certificates, guaranteeing their freedom from tuberculosis, typhoid fever, and other communicable diseases.

Now, stop and think. If there is any person who, by virtue of his calling ought to be free from contagious or infectious diseases, it is the person who handles food for others' consumption. The day is not far distant when health, a clear eye, good skin, good teeth and personal cleanliness will be necessary assets in any occupation. Then we may watch the declining death-rate in tuberculosis.

AUDITORS' REPORTS FOR 1914.

McLAREN, GOODE & CO.
Certified Public Accountants.

San Francisco, Cal., January 26, 1915.

Medical Society of the State of California,
San Francisco, Cal.

Gentlemen:

We have audited the accounts of the Medical Society of the State of California for the year 1914, and we annex hereto Analysis of Cash Receipts and Cash Disbursements for the year, showing totals by months.

The balance with the Union Trust Company of San Francisco at December 31, 1914, amounting to \$823.26, has been verified. The volume of bank transactions for the year was as follows:

January 1, 1914, balance.....	\$ 290.10
Deposited during 1914, as per statement of cash receipts.....	23,844.74
	<hr/> \$24,134.84
Less checks drawn during 1914, as per statement of cash disbursements.....	23,311.58
	<hr/> December 31, 1914, balance in bank.....\$ 823.26
The statement of the Union Trust Company of San Francisco shows a balance, as at December 31, 1914, according to their books of	\$863.26
From this must be deducted check 1465, unpaid at December 31, 1914.	40.00
	<hr/> \$823.26 as above

The financial position of the society, as at December 31, 1914, was as follows:

ASSETS.

Cash:		
Union Trust Co....	\$ 823.26	
On hand.....	200.00	\$1,023.26
Accounts Receivable:		
Journal advertising..	775.12	
Stock of Paper in printers' hands, as reported by the James H. Barry Co.....	275.00	
Furniture and fixtures.	750.00	
		<u>\$2,823.38</u>
LIABILITIES.		
Loan by Union Trust Co.	\$1,000.00	
Medical Defence—Attorneys' fees:		
W. R. Jacobs.....	\$1,000.00	
W. W. Kaufman....	2,348.40	
		<u>3,348.40</u>
		<u>4,348.40</u>
Net deficiency.....		\$1,525.02

We would point out that the deficiency is less by \$356.33 than the deficiency for the year 1913, in spite of the fact that the cash disbursements on account of Medical Defence have increased from \$5,213.10 to \$7,093.01, and the liability incurred on this account, from \$2,297.80 to \$3,348.40.

We are, gentlemen,

Yours very truly,

(Signed) McLAREN, GOODE & CO.

RECEIPTS.

Summary.

Journal advertising.....	\$ 6,815.33
Journal subscriptions.....	56.90
County societies.....	15,018.00
Register advertising.....	301.50
Register sales.....	89.00
Rent received.....	180.00
Sundry receipts (including loan from Union Trust Co. in December).....	1,384.01
	<u>\$23,844.74</u>

DISBURSEMENTS.

Summary.

Journal expense.....	\$ 5,182.06
Register expense.....	1,046.72
General expense.....	1,816.75
Office expense.....	883.04
Salaries.....	7,290.00
Medical defense.....	7,093.01
	<u>\$23,311.58</u>

LESTER, HERRICK & HERRICK.

Certified Public Accountants.

San Francisco, Cal., May 20, 1915.

Medical Society of the State of California,
San Francisco, California.

Gentlemen:

Consequent to the request conveyed to us by Dr. Philip Mills Jones, your secretary, we have audited the accounts of your society for the year ended December 31, 1914.

The accounts which we have examined constitute a complete record of the receipts and disbursements of cash, and it has evidently not been intended to maintain records within these accounts of the assets and liabilities of the society. As to these assets and liabilities various independent records are maintained which we would designate as memoranda records only. It would be manifestly proper to maintain complete accounts of the society in all respects, but the maintenance

of accounts in this manner would entail labor and expense greater than is now expended.

Our audit has confirmed the integrity of the accounting of all funds evidenced as having been received. Proper vouchers have been presented in complete support of all disbursements and the deposit in bank is verified by the depository. As to the accounting of income embracing dues from the county societies, income from publication of the Journal, etc., we have by process of partial verification and general consideration substantially established the integrity of such accounting.

We certify that the statement of receipts and disbursements herewith as to the year ended December 31, 1914, evidencing receipts of \$23,366.00, disbursements of \$22,832.84 and a resultant balance on December 31, 1914, of \$823.26 has been correctly prepared from the accounts as shown by the books.

We are, gentlemen;

Faithfully yours,

(Signed) LESTER, HERRICK & HERRICK.

Medical Society of the State of California, San Francisco, Cal. Statement of Receipts and Disbursements, January 1, 1914, to December 31, 1914.

Balance, January 1, 1914.....\$290.10

RECEIPTS.

Dues from county societies.....	\$15,018.00
Cal. State Journal of Medicine.....	6,875.78
Advertising.....	\$6,815.33
Subscriptions.....	56.90
Sales.....	3.55
Official Register of Physicians and Surgeons.....	390.50
Advertising.....	\$301.50
Sales.....	89.00
Union Trust Company (Loan) December 16, 1914—60 days, 6 per cent.....	1,000.00
Interest on bank deposits.....	66.82
Miscellaneous.....	14.90
	<u>\$23,366.00</u>
	<u>\$23,656.10</u>

DISBURSEMENTS.

Medical defense.....	\$ 6,842.87
California State Journal of Medicine.....	5,182.06
Official Register of Physicians and Surgeons.....	1,046.72
Loan Union Trust Co.—Payment of 1913 loan.....	1,000.00
Office fixtures.....	145.00
Salaries.....	7,290.00
General expense.....	1,326.19
	<u>\$22,832.84</u>
Balance December 31, 1914, Union Trust Co.....	\$ 23.26

NAVY SURGEONS.

The next examination will be held November 15, 1915, at Washington, D. C., Boston, Mass., New York, N. Y., Philadelphia, Pa., Norfolk, Va., Charleston, S. C., Great Lakes (Chicago), Ill., Mare Island, Cal., and Puget Sound, Wash.

Applicants must be citizens of the United States, and must submit satisfactory evidence of preliminary education and medical education.

The first stage of the examination is for appointment as Assistant Surgeon in the Medical Reserve Corps and embraces the following subjects: (a) Anatomy, (b) physiology, (c) materia medica, (d) general medicine, (e) general surgery, and (f) obstetrics. The successful candidate then attends a course of instruction at the Naval Medical School, during which course he receives a salary of \$2,000 per annum, with allowances for

quarters, heat and light, and at the end of the course, if he successfully passes an examination in the subjects taught at the school, he is commissioned an Assistant Surgeon in the Navy.

Full information with regard to the physical and professional examinations may be obtained by addressing the Surgeon General of the Navy, Navy Department, Washington, D. C.

NEW LICENTIATES.

Clapp, Gordon Adams; Crawford, James Porter. Downing, Samuel Robert.

Epsteen, Abelson.

Fox, Harry Whitfield; Friedman, Aaron; Fuller, Justin Keyser.

Gelston, Clain Fanning; Gilbert, Ramon Augustus.

Holzberg, Henry Leopold.

Jones, Robert Alton.

Kruse, Fred Herman.

Lyman, Timothy; Lynch, William Carston.

McCarthy, Francis Justin; Maxwell, Alice Free-land.

Pape, Ernest Howard; Parsons, Carl Gehr; Perry, Joseph Raymond.

Read, Jay Marion; Rehfish, John Morse; Robertson, Oswald Hope; Roger, Joseph Henry Denis. Seaver, Homer Carlton; Smith, Elmer William; Smith, Harry James; Smithwick, James Milton.

Welin, Albert Fabian, Wells, Clarence Edgar; West, Howard Frank; Wetmore, Clyde Timothy; Wilson, Lafayette J.; Wood, Lorin Francis, Jr.; Wood, Walter Welcome; Woolsey, John Homer.

RACE BETTERMENT.

The second International Conference on Race Betterment, held August 4-8, was attended by a large number of men and women of scientific achievement. The Conference discussed race decadence, the possibilities of race improvement, and the agencies of race betterment.

Luther Burbank, the plant wizard, discussed "Evolution and Variation with the Fundamental Significance of Sex." Mr. Burbank said: "Abundant, well balanced nourishment and thorough culture of plants or animals will always produce good results in holding any species or variety up to its best hereditary possibilities, beyond which it cannot carry them, and lacking which, maximum development can never be realized. But a sharp line must always be drawn between the transient results, temporarily attained through favorable environment, and the permanent results of selection of the best individuals for continuing the race. Only by constant selection of the best can any race ever be improved."

Paul B. Popenoe, editor of the American Journal of Heredity, in discussing "The Natural Selection of Man" declared: "There are only two ways to improve the germinal character of the race, to better it in a fundamental and enduring manner. One is to kill off the weaklings born in each generation. That is Nature's way, the old method of natural selection which we are all agreed must be supplanted. When we abandon that, we have but one conceivable alternative, and that is to adopt some means by which fewer weaklings will be born in each generation. The only hope for permanent race betterment under social control is to substitute a selective birth-rate for Nature's death-rate. That means eugenics."

Dr. J. H. Kellogg, superintendent of the Battle Creek Sanitarium, proposed that the Conference institute a eugenics register which would undertake to register two classes of persons: "First, those who, on examination in relation to personal characteristics and family pedigree, are found to measure up to eugenic standards. Second, the children born of parents whose pedigree and physical characteristics conform to the required standards. Such a registry would be the beginning of a new and glorified human race which sometime, far

down in the future, will have so mastered the forces of nature that disease and degeneracy will have been eliminated. Hospitals and prisons will be no longer needed, and the golden age will have been restored as the crowning result of human achievement and obedience to biologic law."

Among the other speakers were Dr. David Starr Jordan of the Leland Stanford University; Dr. Ernest B. Hoag of the Los Angeles Juvenile Court; Edgar L. Hewitt, director of the United States Bureau of Ethnology; Prof. Irving Fisher, of Yale University, and many others of equal prominence in sociological and scientific circles.

The Conference was concluded with a Morality Masque, in which two hundred students of the University of California took part. This masque was a dramatic arraignment of disease and war.

SOCIAL SERVICE SCHOOL.

October 1915—June 1916.

(Maintained by San Francisco Polyclinic and Post Graduate College.—1535 Jackson Street.)

Course includes:

- (1) Practice work in clinics under direction, or work in organized groups.
- (2) Field work with responsibility for a few families and individuals.
- (3) Conferences on typical problems in case-work led by director of school and expert social workers.
- (4) Lectures on types of social work and theories of social reform by recognized sociologists.
- (5) Prescribed reading.
- (6) Surveys and reports on special problems.

This course is arranged in response to a demand for trained medical social-workers in hospitals and clinics, for public-health nurses, social investigators, church workers, girl-welfare workers and workers with families and children.

Morning conferences, Monday and Thursday at 11 o'clock.

Family Rehabilitation.

(Social study of cases supplemented by lectures on fundamentals.)

- 1—How to make a Social Diagnosis (in cases of family demoralization), Miss Mary Kidder, Supt. Associated Charities.
- 2—Types of Demoralized Families (principles and methods of treatment), Miss Katherine Felton, Secretary Associated Charities; Dr. Philip King Brown.
 - (a) Poverty—Removal of breadwinner; Unemployment; Unthrift.
 - (b) Sickness—Acute; Chronic; Physically handicapped; Medical-social machinery involved.
 - (c) Moral failure of parents—Desertion, Drunkenness; Failure to Provide; Degenerate Mother.
 - (d) Incurable Disabilities—Prescribing an Institution (see Child Problems 3).
- 3—Community Resources for the Demoralized Family.
 - (a) Our Benevolent Societies, Miss Mary Kidder.
 - (b) Our Church Societies, Miss Mary Kidder.
 - (c) Unions, Jas. W. Mullen, Editor Labor Clarion.
 - (d) Widows' Pensions, Miss Margaret Nesfield, Widows' Pension Bureau.
 - (e) Hospitals and Clinics, Miss Dorothy Meininger, Mt. Zion Hospital.
 - (f) Legal Phases, Charles de Young Elkus.
 - (g) Value of Neighborhood Work, Miss Elizabeth Ashe, Telegraph Hill Neighborhood House.

Child Problems.

- 1—Family Care of Children, Dr. Sanford Blum. Feeding; Hygiene of Childhood and Adolescence; Infant Mortality; Instructing Mothers.

- 2—Care of Children in Foster Homes, Miss Catherine Felton; O. K. Cushing.
Home-finding Societies; Test of a Good Foster Home; Foster Homes vs. Boarding Homes; Standardization.
- 3—Institutional Care of Children, Dr. Samuel Langer, Pacific Hebrew Orphanage.
(a) When to Prescribe an Institution; Test of a Good Institution; Dangers and Difficulties; "Institutionalism"; Study of a High Type; Study of an Inferior Type.
(b) Congregate System vs. Cottage System, Mrs. Douglas Lindley, Pres. Sacramento Orphanage; Mrs. F. M. Smith, Smith Cottages, Oakland.
(c) Standardization of Homes and Institutions, Rabbi Martin Meyer (Work of State Board Charities and Corrections).
- 4—Care of Delinquent Children, Dr. Millicent Cosgrave.
1—Diagnosis of Delinquency; Delinquency vs. Sex; Delinquency vs. Feeble-mindedness; Delinquency vs. Mal-adjustment to School, Work, Play, etc.
2—Probation System, Mrs. E. L. Baldwin, Chairman Probation Committee.
3—Reformatories—The Honor System; Making Punishment Educative, Sidney Gamble, Preston Republic.
- 5—The Unusual Child, Dr. V. H. Podstata, Livermore Sanitarium. Series of 4 lectures.
Evening Lectures, Friday Evenings beginning October 15th, at 8 o'clock.

Fundamentals of Family Welfare.

(To supplement conferences on Family Rehabilitation)

- 1—History of the Family as a Social Institution, Dr. Jessica Peixotto, University of California.
- 2—Development of Standards of Living, Dr. Jessica Peixotto. Historical and Economic Aspects; Basis of Sound Family Life.
- 3—Family Budgets, Dr. Jessica Peixotto.
- 4—Social Legislation and the Standard of Living, Prof. Carleton Parker, University of California.
- 5—Labor Unions and the Standard of Living, National Delegate American Federation of Labor.
- 6—Public Health and the Standard of Living, Prof. J. N. Force, University of California.
- 7—Public Health and the Tuberculosis Problem, Miss E. L. M. Tate, Secretary California Tuberculosis Society.
- 8—Social Insurance and Occupational Diseases, Harris Weinstock, Industrial Accident Board.
- 9—Unemployment and Out-of-Work Insurance, Prof. Carleton Parker.

Aims and Principles of Social Service.

- 1—Social Work—Palliative, Preventive or Constructive?—Dr. Henry B. Favill, Chicago. Evolution of Organized Charities; Treating Symptoms vs. Diagnosing Causes; Via Social Service to Social Justice.
- 2—Philosophy and Health, Prof. Arthur U. Pope, University of California.
- 3—The Goal of Social Effort, C. S. S. Dutton, Unitarian Church.
- 4—The Influence of Social Service, Dr. Philip King Brown. Working Toward Prison Reform; Care of Chronic and Handicapped Cases; Prevention of Progressive Decay.
- 5—Religion and Social Service, Rabbi Martin Meyer.

Economic Readjustments.

(Suggested by social work.)

- 1—Industrial Betterment—
(a) What the Industrial Relations Commission Hopes to Accomplish and How, Harris Weinstock.
(b) The Corporation's Part, C. B. Raymond, Sec'y. Goodrich Rubber Co., Akron, O.
(c) Unionizing the Working Girl, Miss Maud Younger.

(d) The Minimum Wage Law, Mrs. Katherine Edson, State Industrial Commission.

2—Socialism—

- (a) As a Philosophy, Prof. Arthur U. Pope.
- (b) As an Economic Theory, Prof. Carleton Parker.
- (c) As a Workable Program, Prof. Carleton Parker.

Unsolved Problems.

(From case records of social workers.)

- 1—The Unusual Child, Dr. V. H. Podstata, Livermore Sanitarium.
- 2—The Delinquent Girl—
(a) Types of Deficiency—mental and Moral; Arrested Development of Will-power, Emotional Control and Social Attitude, Dr. Olga Bridgeman, Juvenile Court.
(b) Rescues, Reformatories and Detention Homes, Dr. Louise Morrow, formerly Training School for Girls, Geneva, Ill.
(c) Intensive Case-work, Miss Jessica Beard, formerly Social Investigator N. Y. Probation and Protective Assn.
(d) Repression vs. Expression; Old vs. New Methods, Mrs. C. M. Weymann, Supt. Whittier.
- 3—The Unmarried Mother (to be announced). Re-education of Public Opinion.
- 4—The Dance-Hall Girl (Commonwealth Club Report), W. S. Woolner.
- 5—Mental Defectiveness, Prof. Lewis Terman, Stanford University.
- 6—Cheap Maternities and the Midwife, Dr. Adelaide Brown.
- 7—The Exposition Problem of Employment for Women, Mrs. Wm. P. Lucas; Miss T. Brookman, Y. W. C. A.
- 8—Mental Hygiene and After-care of the Insane, Dr. Eva C. Reid, Follow-up Worker for State.
- 9—Medical-Social Ethics—
(a) What is Sex Education and is it a Remedy? Dr. Julius Rosenstirn.
(b) Moral Training of the Sex Impulse, Prof. Chas. Rugh, University of California.
(c) Preventing bad breeding, Dr. Philip King Brown.
(d) Birth Control, Dr. Wm. P. Lucas, U. C. Medical School.
(e) Dangers in the Social Hygiene Movement, Father Ramm.

"A dispensary for the sick poor, a school for the instruction of physicians in general and special medical work and an organization for the promotion of social service."—Annual Report of S. F. Polyclinic.

The demands upon the lecturers in this course are such that occasional changes in the program may be unavoidable. Corrected announcements will be sent monthly to holders of course tickets.

Fee for the full course leading to a certificate—\$20 payable in two installments of \$10 each.

Fee for the Evening Lecture Course of 30 lectures, \$10—15 lectures, \$7.50.

Fee for Dr. Podstata lectures as a separate course, \$2.00.

NEW MEMBERS.

Rees, Clarence E., San Diego.
Dignan, H. H., San Francisco.
W. J. Stone, San Rafael.

DEATHS.

Ware, C. D., Bodie, Cal.
Maldonado, Albert; address unknown. (Died in San Francisco.)
Klonk, F. W., Oakland.
Graham, Loren Benj., Pacific Grove. (Died Aegean Sea.)
Beckwith, Edmund, Petaluma.
Parkman, W. E., San Jose.
Hews, Robt. H. (died in Long Beach).